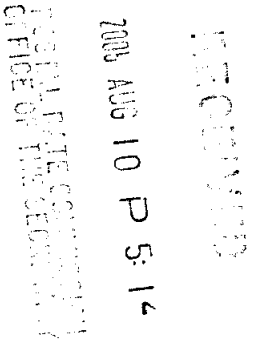
# OFFICIAL TRANSCRIPT OF PROCEEDINGS BEFORE THE POSTAL RATE COMMISSION

In the Matter of: )
) Docket No.: R2006-1
POSTAL RATE AND FEE CHANGES )

VOLUME #6

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POSTAL RATE COMMISSION

In the Matter of: )
) Docket No.: R2006-1
POSTAL RATE AND FEE CHANGES )

Suite 200
Postal Rate Commission
901 New York Avenue, N.W.
Washington, D.C.

Volume 6
Wednesday, August 9, 2006

The above-entitled matter came on for hearing pursuant to notice, at 9:30 a.m.

BEFORE:

HON. GEORGE A. OMAS, CHAIRMAN
HON. DAWN A. TISDALE, VICE-CHAIRMAN
HON. TONY HAMMOND, COMMISSIONER
HON. RUTH Y. GOLDWAY, COMMISSIONER

APPEARANCES:

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# C O N T E N T S

WITNESSES APPEARING:
THOMAS E. THRESS
PETER BERNSTEIN

# E X H I B I T S

| EXHIBITS AND/OR TESTIMONY | IDENTIFIED | RECEIVED |
|---|---|---|
| Corrected direct testimony of Thomas E. Thress on behalf of the United States Postal Service, USPS-T-7 | 1194 | 1195 |
| Corrected designated written cross-examination of Thomas E. Thress, USPS-T-7 | 1196 | 1196 |
| Valpak Cross-Examination Exhibit, VP-XE-1-Thress | 1356 | 1356 |
| Corrected direct testimony of Peter Bernstein on behalf of the United States Postal Service, USPS-T-8 | 1376 | 1378 |
| Corrected designated written cross-examination Peter Bernstein, USPS-T-8 | 1379 | 1379 |
| Response of Witness Bernstein to Greeting Card Association Interrogatory, GCA/USPS-T-8-8 | 1395 | 1396 |
| Greeting Card Association Cross-Examination Exhibit, GCA-XE-1 | 1453 | ---- |

P R O C E E D I N G S

(9:30 a.m.)

CHAIRMAN OMAS: Good morning and welcome back. Today we continue hearings to receive the testimony of the Postal Service witnesses in support of Docket No. R2006-1, Request for Rate and Fee Changes.

Does anyone have any procedural matters to discuss this morning?

(No response.)

CHAIRMAN OMAS: Two witnesses are scheduled to appear today. They are Witness Thress and Witness Bernstein.

Mr. Koetting, would you identify your first witness so I can swear him in, please?

MR. KOETTING: Thank you, Mr. Chairman. The Postal Service calls as its next witness Thomas Thress.

CHAIRMAN OMAS: Mr. Thress, would you raise your right hand?

Whereupon,

THOMAS E. THRESS

having been duly sworn, was called as a witness and was examined and testified as follows:

CHAIRMAN OMAS: Please be seated.

THE WITNESS: Thank you.

(The document referred to was marked for identification as Exhibit No. USPS-T-7.)

DIRECT EXAMINATION

BY MR. KOETTING:

Q Mr. Thress, could you please state your full name and title for the record?

A Thomas E. Thress, Vice President of RCF Economic & Financial Consulting.

Q Mr. Thress, before you are two copies of a document entitled Direct Testimony of Thomas E. Thress on behalf of the United States Postal Service, which has been designated as USPS-T-7. Are you familiar with that document?

A Yes.

Q Was it prepared by you or under your supervision?

A Yes.

Q If you were to testify orally today, would your testimony be reflected in the contents of that document?

A Yes.

Q Are there any Category II library references associated with that document?

A Yes. There are four library references, L-63, L-64, L-65 and L-66.

Q And is it your intent to sponsor those library references?

A Yes.

MR. KOETTING: Mr. Chairman, with that the Postal Service would request that the direct testimony of Thomas E. Thress on behalf of the United States Postal Service, USPS-T-7, be admitted into evidence, along with the associated library references.

CHAIRMAN OMAS: Is there an objection?

(No response.)

CHAIRMAN OMAS: Hearing none, I will direct counsel to provide the reporter with two copies of the corrected direct testimony of Thomas E. Thress.

That testimony is received into evidence. However, as is our practice, it will not be transcribed.

(The document referred to, previously identified as Exhibit No. USPS-T-7, was received in evidence.)

CHAIRMAN OMAS: Mr. Thress, have you had an opportunity to examine and review the packet of designated written cross-examination presented to you

this morning?

THE WITNESS: Yes.

CHAIRMAN OMAS: If those questions contained in that packet were posed to you orally today, would your answers be the same as those previously provided in writing?

THE WITNESS: Yes.

CHAIRMAN OMAS: Are there any corrections or additions you would like to make to those answers?

THE WITNESS: No.

CHAIRMAN OMAS: Counsel, would you please provide two copies of the corrected designated written cross-examination of Witness Thress to the reporter?

That material is received into evidence and is to be transcribed into the record.

(The document referred to was marked for identification as Exhibit No. USPS-T-7 and was received in evidence.)

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BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, DC 20268-0001

Postal Rate and Fee Changes, 2006 Docket No R2006-1

DESIGNATION OF WRITTEN CROSS-EXAMINATION
OF UNITED STATES POSTAL SERVICE
WITNESS THOMAS E. THRESS
(USPS-T-7)

| Party | Interrogatories |
|---|---|
| Advo, Inc. | ABA-NAPM/USPS-T7-1-2<br>GCA/USPS-T7-1-16<br>NAA/USPS-T7-2-10 |
| American Bankers Association and National Association of Presort Mailers | ABA-NAPM/USPS-T7-1-2 |
| Association for Postal Commerce | NAA/USPS-T7-1-2<br>PostCom/USPS-T7-1-7, 9-10, 13-17<br>VP/USPS-T7-3 |
| Greeting Card Association | ABA-NAPM/USPS-T7-1-2<br>GCA/USPS-T7-1-16 |
| National Newspaper Association | NNA/USPS-T7-1-2 |
| Newspaper Association of America | NAA/USPS-T7-1-10<br>PRC/USPS-POIR No.8 - Q5 redirected to T7<br>VP/USPS-T7-4 |
| Postal Rate Commission | PRC/USPS-POIR No.8 - Q4-5 redirected to T7 |

| Party | Interrogatories |
| --- | --- |
| Valpak Direct Marketing Systems, Inc. and Valpak Dealers' Association Inc. | VP/USPS-T7-1-4 |

Respectfully submitted,

Steven W. Williams
Secretary

INTERROGATORY RESPONSES OF
UNITED STATES POSTAL SERVICE
WITNESS THOMAS E. THRESS (T-7)
DESIGNATED AS WRITTEN CROSS-EXAMINATION

| Interrogatory | Designating Parties |
|---|---|
| ABA-NAPM/USPS-T7-1 | ABA-NAPM, Advo, GCA |
| ABA-NAPM/USPS-T7-2 | ABA-NAPM, Advo, GCA |
| GCA/USPS-T7-1 | Advo, GCA |
| GCA/USPS-T7-2 | Advo, GCA |
| GCA/USPS-T7-3 | Advo, GCA |
| GCA/USPS-T7-4 | Advo, GCA |
| GCA/USPS-T7-5 | Advo, GCA |
| GCA/USPS-T7-6 | Advo, GCA |
| GCA/USPS-T7-7 | Advo, GCA |
| GCA/USPS-T7-8 | Advo, GCA |
| GCA/USPS-T7-9 | Advo, GCA |
| GCA/USPS-T7-10 | Advo, GCA |
| GCA/USPS-T7-11 | Advo, GCA |
| GCA/USPS-T7-12 | Advo, GCA |
| GCA/USPS-T7-13 | Advo, GCA |
| GCA/USPS-T7-14 | Advo, GCA |
| GCA/USPS-T7-15 | Advo, GCA |
| GCA/USPS-T7-16 | Advo, GCA |
| NAA/USPS-T7-1 | NAA, PostCom |
| NAA/USPS-T7-2 | Advo, NAA, PostCom |
| NAA/USPS-T7-3 | Advo, NAA |
| NAA/USPS-T7-4 | Advo, NAA |
| NAA/USPS-T7-5 | Advo, NAA |
| NAA/USPS-T7-6 | Advo, NAA |
| NAA/USPS-T7-7 | Advo, NAA |
| NAA/USPS-T7-8 | Advo, NAA |
| NAA/USPS-T7-9 | Advo, NAA |
| NAA/USPS-T7-10 | Advo, NAA |
| NNA/USPS-T7-1 | NNA |
| NNA/USPS-T7-2 | NNA |
| PostCom/USPS-T7-1 | PostCom |
| PostCom/USPS-T7-2 | PostCom |

| Interrogatory | Designating Parties |
|---|---|
| PostCom/USPS-T7-3 | PostCom |
| PostCom/USPS-T7-4 | PostCom |
| PostCom/USPS-T7-5 | PostCom |
| PostCom/USPS-T7-6 | PostCom |
| PostCom/USPS-T7-7 | PostCom |
| PostCom/USPS-T7-9 | PostCom |
| PostCom/USPS-T7-10 | PostCom |
| PostCom/USPS-T7-13 | PostCom |
| PostCom/USPS-T7-14 | PostCom |
| PostCom/USPS-T7-15 | PostCom |
| PostCom/USPS-T7-16 | PostCom |
| PostCom/USPS-T7-17 | PostCom |
| PRC/USPS-POIR No.8 - Q4 redirected to T7 | PRC |
| PRC/USPS-POIR No.8 - Q5 redirected to T7 | NAA, PRC |
| VP/USPS-T7-1 | Valpak |
| VP/USPS-T7-2 | Valpak |
| VP/USPS-T7-3 | PostCom, Valpak |
| VP/USPS-T7-4 | NAA, Valpak |

**RESPONSE OF POSTAL SERVICE WITNESS THRESS TO INTERROGATORIES OF ABA-NAPM**

ABA-NAPM/USPS-T7-1. In Docket No. R2005-1, your estimate for the own price elasticity of demand for workshared FCLM was -0.329. In Docket No. R2006-1, with only four extra quarters of data added, your elasticity estimate for workshared FCLM is -0.130, or less than half as elastic.

a. What factors in the economic environment would explain a change of this magnitude in so short a span of time?

b. What factors in your model would explain a change of this magnitude in so short a span of time?

**RESPONSE:**

As a minor detail that has no bearing whatsoever on this answer, the demand equations in R2006-1 rely upon three additional quarters of data as compared with R2005-1.

a. The numbers you cite in your interrogatory are estimates of the own-price elasticity of First-Class workshared letters, based on the econometric equations used in the R2005-1 and R2006-1 cases. The change in the estimated elasticity is not due to a change in the economic environment over the past three quarters, but due to a change in the econometric equation used to estimate the price elasticity.

b. The key factor which explains the change in the estimated elasticity was the estimation of the impact of the number of Broadband subscribers on the volume of First-Class workshared letter mail. My R2006-1 equation estimates that Broadband had a larger negative impact on volume (more electronic diversion) than was estimated using the R2005-1 specification. With electronic diversion having a greater negative impact, the estimated negative impact from higher First-Class workshared letter rates is reduced. The result is a much better econometric fit for the First-Class workshared letters demand equation (for example, the mean-squared error for my R2006-1 equation is 0.000119 as

compared to a mean-squared error of 0.000153 using the R2005-1 specification, as shown in Library Reference LR-L-65 at page 9), but, coincidentally, a smaller estimate of the own-price elasticity.

**RESPONSE OF POSTAL SERVICE WITNESS THRESS TO INTERROGATORIES OF ABA-NAPM**

ABA-NAPM/USPS-T7-2. In Table 10 of your testimony on page 51, you show the effect of the Internet and "electronic diversion" on the volume of First-Class Mail. The effect on single piece mail is notable starting in 1990 and more pronounced after 1995, whereas a significant effect on workshared mail appears only after 2002. With fewer than 0.02 billion pieces of workshared mail "diverted" in 2001, 1.1 billion "diverted" in 2004, and 1.3 billion "diverted" in 2005, please explain fully why you see workshared mail as becoming increasingly inelastic between the R2005-1 and R2006-1 rate cases.

**RESPONSE:**

I do not believe that First-Class workshared mail has become increasingly inelastic between the R2005-1 and R2006-1 rate cases. Rather, my estimate of the own-price elasticity of First-Class workshared letters has changed for the reasons discussed in my response to ABA/USPS-T7-1. Please see also my response to GCA/USPS-T7-8(e) for some discussion of the expected relationship between increasing electronic diversion and the price elasticity of First-Class Mail.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF GCA

GCA/USPS-T7-1.

Please refer to Table 13 in your testimony, R2006-1, USPS-T-7, page 63, and to the corresponding Table 7 from your testimony in R2005-1, USPS-T-7, page 60. In R2005-1, your coefficient for the impact of the Internet on FCLM single piece volume has a negative value, -0.491, indicating that the Internet has a negative effect on the volume of single-piece mail.

a. Please confirm that for R2006-1, the estimated coefficient for your internet variable (CS_ISP) by itself, C0, is positive and equals 0 753. If you cannot confirm, please provide the correct value or explain.

b. If confirmed, state whether you agree that your Internet variable C0 in R2006-1 indicates that the Internet has had a positive effect on the volume of First Class single-piece mail. To the extent you disagree, provide the basis of your position in full. State whether a determination that the Internet has had a positive effect on the volume of single-piece mail is at odds with your prior work and USPS witness Bernstein's testimony in this case. To the extent you disagree, provide the basis of your position in full.

RESPONSE:

a. Confirmed.

b. I do not agree that the Internet has had a positive effect on the volume of First-Class single-piece mail. As presented in Table 13 of my testimony on page 63, the coefficient on the Internet variable, CS_ISP, at any time t, is equal to the following:

$$C_0 + C_1 \cdot \text{Trend} + C_2 \cdot \text{Trend}_{2002Q4}$$

The Trend variable here has a value equal to one beginning in 1971Q1, increasing by one each quarter thereafter. The first quarter in which the Internet variable, CS_ISP, has a value greater than zero is 1988Q2. The value for Trend in 1988Q2 is 70. Plugging this into the above formula, then, the coefficient on the Internet variable, CS_ISP, in 1988Q2, is equal to

$$C_0 + C_1 \cdot 70 + C_2 \cdot 0 = 0.753 - 0.011 \cdot 70 = -0.023$$

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF GCA

Because both $C_1$ and $C_2$ have negative coefficients, the aggregate coefficient on CS_ISP becomes more strongly negative over time. For example, the coefficient on CS_ISP in 2005Q4 is equal to

$$C_0 + C_1 \cdot 140 + C_2 \cdot 13 = -0.905$$

Hence, the Internet variable, CS_ISP, used in my work here never has a positive coefficient.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF GCA

GCA/USPS-T7-2.

Please refer to your testimony, R2006-1, USPS-T-7, page 63.

a. Please confirm that the estimated coefficient for the average worksharing discount is -0.096 in the FCLM single piece demand equation.

b. Please confirm that this coefficient when estimated in the workshared equation is a positive number.

c. Please confirm that you impose the negative sign of this coefficient in the single piece equation, and that the negative value is not, instead, the result of econometric estimation.

d. Please confirm, by doing the estimation, that including the average workshare discount directly into the single-piece equation leads to a positive econometric estimate for the coefficient of this variable. If you do not confirm, please provide your results, methodology, and all of the data and tests you used to answer the question.

e. If your answer to (d) is "Confirmed," is not your imposition of a negative sign on this coefficient in the single piece equation an econometric mis-specification of that equation? If your answer is anything other than an unequivocal "Yes," please explain fully why you have not mis-specified that equation.

RESPONSE:

a. Confirmed.

b. Confirmed.

c. Not entirely confirmed. The coefficient estimate in the First-Class single-piece letters equation is econometrically estimated subject to a stochastic restriction from the First-Class workshared letters equation.

d. Confirmed.

e. My imposition of a negative sign on this coefficient is not an econometric mis-specificiation. As explained in detail in my testimony at pages 53 – 56, the theory underlying the inclusion of the First-Class worksharing discount in the First-Class letters equations clearly indicates that "the total volume leaving First-Class single-piece mail due solely to changes in worksharing discounts should be

exactly equal to the volume entering First-Class workshared mail." (p. 53, ll. 11-13)

Knowing this underlying economic theory as well as knowing that the econometrically estimated coefficient of this variable from the First-Class workshared letters equation is -0.098 with a variance of 0.0000980, it would be incorrect not to include this information when estimating the appropriate coefficient on the worksharing discount in the First-Class single-piece letters equation.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF GCA

GCA/USPS-T7-3.

a. Please confirm that the correlation between your ISP variable and your time trend variable is 0.9407. If you do not confirm, please provide the estimate.

b. Please confirm that your use of the ISP variable is essentially little more than a time trend variable. If you cannot confirm, please explain and provide the basis for your conclusion in full.

c. Please confirm that your new ISP variable is essentially nothing more than an estimated proxy for the number of users of Internet services, i.e. consumption expenditures on the Internet divided by the price index for ISP. If you cannot confirm, please explain and provide the basis for your conclusion in full.

d. Please confirm that your demand equation for single piece mail does include the price of single piece mail, but does not include the prices of any competing substitutes (other than the worksharing discount you impose). If you cannot confirm, please explain and provide the basis for your conclusion in full.

e. Please confirm that your ISP variable in R2006-1 is an entirely new variable from your ISP variables in R2001-1 and R2005-1, but **still** does not represent the unit price of that competing substitute. If you cannot confirm please explain and provide the basis for your conclusion in full

RESPONSE:

a. Not confirmed. The correlation between consumption expenditures on Internet Service Providers (CS_ISP) and a linear time trend (TREND) over the sample period across which the First-Class single-piece letters demand equation is estimated (1983Q1 – 2005Q4) is 0.8796.

b. Not confirmed. The value of CS_ISP is equal to zero through 1988Q1. Over this time period, which includes the first five years of the sample period over which the First-Class single-piece letters equation is estimated, then, CS_ISP and TREND are perfectly uncorrelated. Even since 1988Q2, the growth pattern of CS_ISP differs in meaningful ways from a simple linear time trend (or any other simple time trend) in ways that are far more revealing about the factors

which have driven the negative trend in First-Class single-piece letters volume over this time period than would be the simple inclusion of a generic time trend.

As shown in Table 11 on page 52 of my testimony, the Internet variable in the First-Class single-piece letters equation explains a cumulative loss of 33.7 billion First-Class single-piece letters over the sample period used to estimate this demand equation. Even if a simple time trend were to arrive at a similar cumulative estimate, it would, by its nature, assume that these 33.7 billion pieces were distributed uniformly across the full sample period, i.e., that First-Class single-piece letters volume was reduced by 1.4 – 1.5 billion pieces per year for each of the 23 years of the sample period.

On the other hand, as shown in Table 10 on page 51 of my testimony, the Internet variable reveals that none of this diversion occurred prior to 1988, with annual diversion growing gradually from just over 400 million pieces in 1988 to more than 2 billion pieces in 1995, and that the level of electronic diversion grew further over the three most recent years, 2003 – 2005, to an annual level in excess of 2.8 – 2.9 billion pieces of mail diverted per year, a figure nearly twice as great as the average annual diversion over the full sample period.

c. Confirmed that the ISP variable included in my First-Class single-piece letters demand equation is a proxy for the number of users of Internet services, i.e. consumption expenditures on the Internet divided by the price index for ISP.

d. Not entirely confirmed. To the extent that one of the factors which led to an increasing use of the Internet and other electronic alternatives to mail has been declining prices associated with such alternatives to mail, the ISP variable included in the First-Class single-piece letters equation will incorporate the price of these electronic alternatives.

e. Somewhat confirmed. The "ISP variable" that serves as the basis for my econometric estimate of the impact of the Internet and other types of electronic

diversion on First-Class single-piece letters volume is the same variable as I used in the two previous cases, consumption expenditures on Internet Service Providers. I have, however, modified the precise specification of this variable within the First-Class single-piece letters equation in this case as part of my continual effort to improve this equation.

It is important to understand, also, that the Internet variable here serves as a proxy for all of the myriad ways in which mail may be diverted by the Internet as well as by other electronic alternatives. As such, it would not be possible to identify a single "unit price" associated with such alternatives.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF GCA

GCA/USPS-T7-4.

Please refer to your testimony R2006-1, USPS-T-7, page 46, where you state starting at line 17: "E-mail has emerged as a potent substitute for personal letters, bills can be paid online, and some consumers are beginning to receive bills and statements through the Internet rather than through the mail."

a. Please confirm that the normal specification of a demand equation in the presence of competing substitutes includes the prices of the substitutes as well as the price of the good in question.

b. When you refer to "alternatives" to First Class single piece mail, to "electronic diversion" or "electronic substitution", or to "losses" of single piece mail, please confirm that you are referring to the existence of competing substitutes for single piece mail in one or more markets.

c. Please confirm that if the price of a strongly competing substitute is not controlled for in the demand equation for a good, the coefficient representing the impact of the price on the demand equation will be mis-specified and the impact of the price of the good on demand for the good will be biased.

d. Please confirm that if time series data were available on price per unit for electronic media substitutes and Internet substitutes for mail, these time series would be appropriate variables along with single piece mail price to include in the demand equation for single piece mail volume. If you cannot confirm, please explain and provide the basis for your conclusion in full.

e. Please confirm that over several rate cases now, the absence of the direct price variables for these competing substitutes noted in c. (above) is one reason why you have used consumption expenditures on internet service providers (ISP) or time trend variables. If you cannot confirm, please explain and provide the basis for your conclusion in full.

f. Please confirm that your ISP variable is not the price of electronic media substitutes or the price of Internet substitutes for single piece mail. If you cannot confirm, please explain and provide the basis for your conclusion in full.

RESPONSE:

a. Not confirmed. For a product in a mature market with a fixed set of substitutes, it is common for a demand equation to include price measures for substitute goods. See, for example, my demand equation for Express Mail

(pages 140 – 150 of my testimony), which includes a cross-price with respect to Federal Express.

If, however, such substitutes are newly emergent or are growing in their market reach, it will also be important to explicitly account for this market growth in assessing the demand for the product, even if the competing substitutes, in such a case, compete primarily based on price. See, for example, my demand equation for Priority Mail (pages 156 – 166 of my testimony), where the own- and cross-price elasticities change over time to reflect the increasing market presence of Federal Express in the ground package market.

Finally, however, the competition between two or more products may not be primarily price-based. For example, the price, to me, of paying my credit card bill online, given that I already own a computer and have Internet access, is zero, and has been since online bill-payments were accepted by my credit card company. The factors which led to my decision to begin to pay bills online included the ease of paying said bill, my comfort level with Internet transactions, and the timeliness with which online payments are received, each of which has changed over time in a way that would not be captured in looking at a simple time series of the price of online bill-paying, which, in this case, would be infinite prior to online bill paying being available and zero since that time.

The simple modeling technique of identifying all substitutes and putting their prices into an econometric equation will frequently prove insufficient in understanding consumer behaviors in real economic markets.

b. Confirmed.

c. Not confirmed. If a variable which affects the true demand for a product is omitted from an econometric specification, then the coefficients on the included variables will only be biased to the extent to which these variables are correlated with the omitted variable.

d. If time series data were available on price per unit for electronic media substitutes and Internet substitutes for mail, these time series would be excellent candidates for investigation for possible inclusion within the First-Class single-piece letters equation. Whether these variables would, in fact, turn out to be "appropriate variables" would ultimately be an empirical question that could only be answered by econometric experimentation.

e. Not confirmed. The Internet variables which I have included in several of my demand equations have been included to attempt to explicitly account for the effect of competing electronic alternatives on mail volumes.

f. Confirmed.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF GCA

GCA/USPS-T7-5.

Please refer to your testimony, R2006-1, USPS-T-7, pages 312-316 and the following table showing the correlation coefficient matrix for several of the variables you have included in your SP equation over 1988-2005 periods

Correlation Coefficient Matrix 1988Q2-2005Q4

| | D1_3WS_FIT | EMPL_T | CS_ISP | TREND |
|---|---|---|---|---|
| D1_3WS_FIT | 1.0000 | -0.9251 | 0.8184 | 0.9625 |
| EMPL_T | | 1.0000 | -0.9202 | -0.9681 |
| CS_ISP | | | 1.0000 | 0.9407 |
| TREND | | | | 1.0000 |

a. Please confirm that the variable reflecting the average workshared discount is accounted for by the variable D1_3WS_fit in your dataset. If you cannot confirm, please explain why.

b. From the above table, please confirm that there exists a very high correlation between each of the three variables and the time trend. If you cannot confirm, please explain why.

c. Please confirm that the inclusion of the trend variable alone would have been sufficient to capture the effect of these variables. If you cannot confirm, please explain why.

d. Please confirm that the inclusion of any one of the three variables alone in the above table would have been sufficient to capture the effect of all three. If you cannot confirm, please explain why.

e. Please confirm that the very high correlations among the variables shown in the above table could result in multi-collinearity in the model. If you cannot confirm, please explain why. Please provide any tests that you have conducted showing that multicollinearity is not present in your single piece equation, and more specifically among the three independent variables in the above table.

f. On page 313 lines 20-22, you state that "in my work, multi-collinearity is particularly acute with regard to a high degree of correlation between current and lagged prices...." Please confirm that, in light of the above table, multi-collinearity is also "acute" between and among the three variables identified above, *i.e.*, D1_3WS_FIT, EMPL_T, and CS_ISP.

g. Please confirm that the presence of multi-collinearity in the model can result in the coefficients not being correctly estimated. In other words multi-collinearity masks the separate effect of each variable. If you cannot confirm, please explain why.

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h. Please confirm that the presence of multi-collinearity could also affect the estimated coefficient of the FCLM single piece own price variable. If you cannot confirm, please explain and provide the basis for your conclusion in full.

RESPONSE:

a. Not fully confirmed. The variable D1_3WS_FIT is included in the First-Class workshared letters equation to reflect the effect of the average First-Class worksharing discount on First-Class workshared letters volume. The variable D1_3WS is included in the First-Class single-piece letters equation to reflect the effect of the average First-Class worksharing discount on First-Class single-piece letters volume. The difference between D1_3WS_FIT and D1_3WS and the logic underpinning their use is described in my testimony at pages 53 – 55

b. Confirmed that the correlation coefficients shown in your table are high.

c. Not confirmed. I do not estimate any demand equations which include the variables D1_3WS_FIT, EMPL_T, and CS_ISP within the same equation, nor do I estimate any demand equations which include any of these three variables using a sample period of 1988Q2 – 2005Q4. Hence, the correlation coefficient matrix shown above has no particular relevance to any of my demand equations.

Assuming your interest is specifically with respect to the First-Class single-piece letters equation, I can say that replacing the Internet variable with a simple time trend in the First-Class single-piece letters equation results in a clearly inferior equation for all of the reasons discussed in my response to GCA/USPS-T7-3(b). The changes in the level and magnitude of ISP consumption over time do a far better job of explaining the changes which have occurred in First-Class single-piece letters volume over time than would a simple constant trend factor.

d. Not confirmed. The fact that these variables are highly correlated should not be confused with a claim that these variables are perfectly correlated. There are

clear differences between these variables and, in a well-specified, well-estimated econometric equation, these differences can be isolated in such a way as to develop a much richer and fuller understanding of the factors which affect the demand for mail volume than would be possible if only one of these variables was included.

In the specific case of my First-Class single-piece letters demand equation, the t-statistics on EMPL_T (-2.79), CS_ISP (16 42), CS_ISP interacted with a time trend (-19.01), and CS_ISP interacted with a time trend starting in 2002Q4 (-4.78), indicate that each of these is important in fully understanding the behavior of First-Class single-piece letters consumers over time.

Even beyond this obvious empirical superiority, however, it is also the case that the demand equation which I have presented in this case, by including each of these distinct variables, provides a level of understanding about the factors which have driven mail volume which is not possible if one were to simply include a single time trend and measure the extent to which it correlates with First-Class single-piece letters volume over time

e. Confirmed.

f. As noted in my answer to part (c) above, I have no demand equations which include all of the variables shown in your table. It is certainly true that multicollinearity will inevitably exist, to at least some degree, in any empirical econometric work. The inclusion of more than one variable which contains an obvious trend is certainly one example of multicollinearity.

g. The presence of multicollinearity may lead to an inefficient estimator of one's elasticities. Elasticity estimates in the presence of multicollinearity will remain unbiased, however. Please see my testimony at pages 312 – 313.

h. Multicollinearity is not an issue for the own-price elasticity estimate because the own-price variable is not strongly correlated with the other variables in my equation.

Over the sample period over which the First-Class single-piece letters equation is estimated (1983Q1 – 2005Q4), the correlation between the price of First-Class single-piece letters and the average worksharing discount (D1_3WS) is −0.0922, the correlation between the price of First-Class single-piece letters and EMPL_T is 0.0162, the correlation between the price of First-Class single-piece letters and CS_ISP is −0.1541, and the correlation between the price of First-Class single-piece letters and a linear time trend (TREND) is −0.0773

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GCA/USPS-T7-6.

Please refer to your LR-L-64, File demandequations.txt.

a. Please confirm in your estimation of the FCLM single piece demand equation that the Shiller coefficient is zero.

b. Is it unusual to have a Shiller coefficient value equal to zero in the presence of multicollinearity? Please explain fully.

RESPONSE:

a. Confirmed.

b. No. Multicollinearity can lead to inefficient coefficient estimates, i.e., the coefficient estimates will tend to have large standard errors associated with them But coefficient estimates will still remain unbiased even when multicollinearity is present. Hence, the expected values of the coefficient estimates will continue to have their expected signs. The Shiller restriction is only binding, in my work, in those cases where the signs on one or more price lag coefficients do not have their expected sign. In the case of First-Class single-piece letters, the freely-estimated own-price coefficients are both of the correct sign. Hence, it is not necessary to impose a Shiller restriction in this case.

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GCA/USPS-T7-7.

Please refer to your R2005-1, LR-K-65 and R2006-1, LR-L-65, after rate forecasts.

a. Please confirm that the annual single piece volume forecasts given in the following table are correct. If you cannot confirm, please provide the correct numbers.

R2006-1 vs R2005-1 SP Volume Forecasts
(in millions of pieces)

| TIME | R2006-1 | R2005-1 | Difference |
|---|---|---|---|
| 2006 | 41,410.402 | 42.459.296 | (1,048.894) |
| 2007 | 39,104.641 | 41,271.110 | (2,166.469) |
| 2008 | 37,206.438 | N/A | N/A |

b. Please state approximately when your forecast in R2005-1 was made and when your corresponding forecast in R2006-1 was made.

c. Please explain what factors, including the changes in the FCLM single piece equation model, have caused the R2006-1 forecast to be more than 1 billion pieces lower than the R2005-1 forecast for the year 2006.

d. Please explain what factors or changes, including the changes in the SP equation model, have caused the R2006-1 forecast to be almost 2.2 billion pieces lower than the R2005-1 forecast for the year 2007.

e. Please confirm that, given the trend in the difference between your R2006-1 and R2005-1 forecasts, if in R2005-1 you had forecast FCLM single piece volume for the year 2008 in R2005-1, the difference would have become even wider than 2.2 billion pieces, and likely well over 3 billion pieces. If you cannot confirm, please explain why.

f. Please confirm that had you used the same volume trends for single piece mail in R2006-1 that you used for R2005-1, on that account alone the revenue requirement for this case would be $1.5 billion lower for TY2008, ($0.51 revenue per piece X 3 billion pieces).

RESPONSE:

Irrelevant to this answer, my after-rates volume forecasts in the last two cases were presented in library references LR-K-66 and LR-L-66.

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a. Confirmed, although I would note that the R2005-1 after-rates volume forecast included no rate increases beyond R2005-1, while the R2006-1 after-rates volume forecast assumes an additional rate increase in 2007Q3. The R2006-1 before-rates volume forecast is therefore more directly comparable to the R2005-1 after-rates volume forecast as shown in the corrected table below.

R2006-1 vs R2005-1 SP Volume Forecasts
(in millions of pieces)

| TIME | R2006-1 | R2005-1 | Difference |
|---|---|---|---|
| 2006 | 41,410.402 | 42,459.296 | (1,048.894) |
| 2007 | 39,401.453 | 41,271.110 | (1,869.657) |
| 2008 | 38,161.662 | N/A | N/A |

b. The R2005-1 before-rates forecast was made some time in January of 2005, with the after-rates forecast made in March of that year. The R2006-1 before-rates forecast was made in December of 2005.

c.-d. The primary reason for the difference in the volume forecast for First-Class single-piece letters from R2005-1 to R2006-1 is the addition of three new quarters of actual volumes, 2005Q2 – 2005Q4. For these three quarters, the R2005-1 volume forecast predicted First-Class single-piece letters volume of 31,898.624 million pieces. Actual volume for these three quarters was instead 30,998.727 million pieces. Hence, simply updating the base period to include these three quarters had the effect of reducing the First-Class single-piece letters volume forecast by nearly one billion pieces per year throughout the forecast period.

Beyond the direct effect of plugging these volumes into the base volume, this over-forecast of First-Class single-piece letters volume over these three quarters also served as the impetus to investigate further the relationship between First-Class single-piece letters volume and the Internet. This investigation, which

culminated in the adoption of the demand equation used in this case, is described in some detail in Library Reference LR-L-65 at pages 196 – 290.

e. Not confirmed. Extending the R2005-1 volume forecast through GFY 2008 produced a volume forecast for First-Class single-piece letters of 40,321.183 million pieces, which is 2.16 billion pieces greater than the R2006-1 Test Year before-rates volume forecast.

f. Not confirmed. I am not the revenue requirement witness, and I thus am not aware of all the factors that might need to be considered to determine the revenue requirement. Nevertheless, taking your average revenue figure of $0 51 as given, the difference of 2.16 billion pieces shown above would lead to a difference in revenue of approximately $1 1 billion This revenue change is not, however, equivalent to the change in the revenue requirement, which is beyond the scope of my testimony.

Of course, using the R2005-1 volume forecast in this case, in the face of actual First-Class single-piece letters volumes in the last three quarters of 2005, would be incorrect.

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GCA/USPS-T7-8.

Please consider the following simple hypothetical example which deals with the impact on own price elasticity from not including the prices of competing substitutes in a demand equation. Table 1 shows the raw annual data on quantity demanded of good X, the price of good X and the price of substitute good Y, given in Columns 1-3 and the corresponding natural log of these variables, given in Columns 4-6. Column 7 shows the price of substitute Y divided by the price of X and Column 8 shows the price of X divided by the price of substitute Y reflecting the relative prices. Table 2 shows the regression of the natural log of the quantity demanded of good X with respect to the natural log of its own price. Table 3 shows the regression of the natural log of the quantity demanded of good X with respect to the natural log of its own price and the natural log of the price of the substitute good, Y. Regressions were conducted in Excel.

a. Please refer to Table 2. Please confirm that the results for the quantity demanded with respect to its own price when the price of the substitute is excluded from the equation, indicates an own price elasticity of -0.7435, which implies an inelastic demand for good X. If you cannot confirm, please explain and provide the basis for your conclusion in full.

b. Please refer to Table 3. Please confirm that the results for the quantity demanded with respect to its own price when the price of the substitute is included, indicates an own price elasticity of -1.3955, which implies an elastic demand for good X in the presence of the substitute. If you cannot confirm, please explain why.

c. Refer to Table 1 Column 7. Please confirm that the price of the substitute good Y is falling relative to the price of good X. If you cannot confirm, please explain and provide the basis for your conclusion in full.

d. If your answer to (a) is affirmative please confirm that economic theory predicts that consumers will substitute good Y for good X when the relative price of good Y is falling.

e. Please confirm from economic theory that in the long-run the availability of substitutes for a given good X with falling relative prices should result in the good's own price elasticity becoming more elastic, properly measured. If you cannot confirm, please explain why and provide specific citations to supporting economic authorities.

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**TABLE 1**

| date | Qx | Px | Py | LQx | LPx | Lpy | Py/Px | Px/Py |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1990 | 23.00 | 142.17 | 8.00 | 3.14 | 4.96 | 2.08 | 0.056 | 17.771 |
| 1991 | 22.61 | 143.93 | 8.05 | 3.12 | 4.97 | 2.09 | 0.056 | 17.880 |
| 1992 | 23.41 | 146.50 | 8.10 | 3.15 | 4.99 | 2.09 | 0.055 | 18.086 |
| 1993 | 22.74 | 150.80 | 8.20 | 3.12 | 5.02 | 2.10 | 0.054 | 18.390 |
| 1994 | 22.04 | 160.00 | 8.10 | 3.09 | 5.08 | 2.09 | 0.051 | 19.753 |
| 1995 | 16.24 | 161.30 | 7.80 | 2.79 | 5.08 | 2.05 | 0.048 | 20.679 |
| 1996 | 16.69 | 170.47 | 7.68 | 2.81 | 5.14 | 2.04 | 0.045 | 22.196 |
| 1997 | 18.20 | 188.10 | 8.30 | 2.90 | 5.24 | 2.12 | 0.044 | 22.663 |
| 1998 | 18.51 | 189.37 | 8.50 | 2.92 | 5.24 | 2.14 | 0.045 | 22.278 |
| 1999 | 17.65 | 189.53 | 8.60 | 2.87 | 5.24 | 2.15 | 0.045 | 22.039 |
| 2000 | 17.68 | 197.88 | 8.90 | 2.87 | 5.29 | 2.19 | 0.045 | 22.234 |
| 2001 | 17.76 | 199.77 | 9.00 | 2.88 | 5.30 | 2.20 | 0.045 | 22.196 |
| 2002 | 17.67 | 211.23 | 9.10 | 2.87 | 5.35 | 2.21 | 0.043 | 23.212 |

**TABLE 2**

Dependent Variable: LQx

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.7558 |
| R Square | 0.5712 |
| Adjusted R Square | 0.5322 |
| Standard Error | 0.0934 |
| Observations | 13 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 1 | 0.12793 | 0.12793 | 14.65073 | 0.00281 |
| Residual | 11 | 0.09606 | 0.00873 | | |
| Total | 12 | 0.22399 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* |
|---|---|---|---|---|
| Intercept | 6.7903 | 0.9999 | 6.7911 | 0.0000 |
| LPx | -0.7436 | 0.1943 | -3.8276 | 0.0028 |

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**TABLE 3**

Dependent Variable: LQx

| *Regression Statistics* | |
|---|---|
| Multiple R | 0.9164 |
| R Square | 0.8397 |
| Adjusted R Square | 0.8077 |
| Standard Error | 0.0599 |
| Observations | 13 |

ANOVA

| | *df* | *SS* | *MS* | *F* | *Significance F* |
|---|---|---|---|---|---|
| Regression | 2 | 0 1881 | 0.0940 | 26 2007 | 0.0001 |
| Residual | 10 | 0 0359 | 0 0036 | | |
| Total | 12 | 0.2240 | | | |

| | *Coefficients* | *Standard Error* | *t Stat* | *P-value* |
|---|---|---|---|---|
| Intercept | 5.6451 | 0 6994 | 8 0710 | 0 0000 |
| LPx | -1.3955 | 0.2022 | -6.9027 | 0 0000 |
| LPy | 2.1236 | 0 5187 | 4.0939 | 0 0022 |

RESPONSE:

Before answering your specific questions, I wanted to address your claim that this example illuminates "the impact on own price elasticity from not including the prices of competing substitutes in a demand equation." In fact, your example here does no such thing. Rather, your example here illustrates the impact on the coefficient of one variable from including or excluding a second variable which is highly correlated with the first variable.

The reason why you find that the "own-price elasticity" changes by so much when the "price of good Y" is added to this equation is not because variable Py has been defined as "the price of competing good Y" but simply because the correlation between Px and Py in this case is equal to 0.7938 (in logs).

This example, therefore, says nothing about the impact on own-price elasticity from excluding the prices of competing substitutes in a demand equation if these

competitor prices are uncorrelated with the own price. Relating this, then, to the case of First-Class single-piece letters and the "price" of electronic alternatives to the mail, this example is only of interest to the extent that we would expect the price of electronic alternatives to be correlated to the price of First-Class single-piece letters.

In fact, I would expect these prices to be quite uncorrelated. I would expect that the price of electronic alternatives to the mail, measured in any meaningful way, has surely declined dramatically over time and, in fact, is likely to be highly negatively correlated with a simple time trend, such as my variable TREND. But, as I explained in my response to GCA/USPS-T7-5(h) above, over the sample period over which the First-Class single-piece letters equation is estimated (1983Q1 – 2005Q4), the correlation between the price of First-Class single-piece letters and a linear time trend (TREND) is −0.0773.

a. Replicating your results in Excel, I get a coefficient estimate of -0.7436, which I assume is due to differences in rounding, so, yes, in general I can confirm both your results and your conclusions.

b. Replicating your results in Excel, I get a coefficient estimate of -1.3950, which I assume is due to differences in rounding, so, yes, in general I can confirm both your results and your conclusions.

c. Confirmed.

d. I don't know that "economic theory" has much to say about whether or how much "consumers will substitute good Y for good X when the relative price of good Y is falling." The price of high-definition television sets has fallen relative to the price of housing in recent years and yet, I am not aware that many people have chosen to go homeless so that they can purchase multiple high-definition televisions.

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The extent to which two goods are substitutes and the extent to which consumers would be expected to substitute between two goods because of changes in the relative price of the goods is ultimately an empirical question that can not be answered generally, but can best be answered in a specific case via rigorous econometric investigation.

e. I can confirm that economic theory does suggest that, all other things being equal, a good is likely to be more own-price elastic the more available and closer are substitutes for the product. Hence, if all other things are equal, it could be the case that, as the number and availability of substitutes increases, this will lead to an increase in the own-price elasticity of a particular good. This appears to be the case, for example, with respect to Priority Mail and the increasing market presence of FedEx Ground, as discussed in my testimony at pages 161 and 162 of my testimony.

Of course, all other things are never equal, so this general suggestion need not be applicable to every case. For example, the introduction of a new product may induce more price-elastic consumers to stop using the old product, leaving the average own-price elasticity of the product's remaining customers lower than before the introduction of the new product, even when one accounts for the increasing own-price elasticity of these individual consumers relative to their own individual elasticities prior to the introduction of the new product. It could also be the case that the nature of the two products may make them substitutes, not on the basis of price, but on the basis of other factors, such as relative availability, convenience, or other factors.

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GCA/USPS-T7-9.

Please refer to your testimony at page 37.

a. Please confirm that the only reason you applied the Box Cox transformation to your ISP variable was to make it non-linear. If you cannot confirm, please explain and provide the basis for your conclusion in full

b. Please confirm that this was not a necessary transformation to estimate your model, i.e. you could have left the ISP data as linear in your translog model.

c. Have you applied the Box Cox transformation to all variables rather than just the ISP variable? If "yes", please provide the results.

d. Please confirm that imposing Box Cox coefficient values of zero and one across all variables in your single piece model yields the two extreme versions of the model, namely the log linear version and the linear version respectively. If you cannot confirm, please explain and provide the basis for your conclusion in full.

e. Please confirm that any value between zero and one for the Box Cox coefficients when the transformation is applied across all variables would be a set of values determined by the data rather than imposed by the researcher. If you cannot confirm, please explain and provide the basis for your conclusion in full.

f. Why is your Box Cox coefficient for the ISP variable of 0.122 so different from last year's estimate of 0.326? Provide the basis for your explanation in full.

RESPONSE:

a. As I explained in my testimony at page 37 (see, especially lines 5 – 9), I applied a Box-Cox transformation to the ISP variable because it was not possible to take the natural logarithm of this variable, as I do with most of the variables included in my demand equations, because the ISP variable has a value equal to zero prior to 1988Q2. Making a Box-Cox transformation does not preclude the possibility of the variable entering the equation linearly, which will be the case if the Box-Cox coefficient is equal to one.

b. The First-Class single-piece letters equation could have been estimated with the ISP variable included linearly. Given that the resulting Box-Cox coefficient of

0.122 is significantly different from a value of 1.0, however, it is clear that such a specification would have been inferior to the specification which I used.

c. No.

d. Confirmed.

e. Confirmed.

f. Because the exact specification by which the ISP variable enters the First-Class single-piece letters equation has changed from R2005-1 to R2006-1, these two Box-Cox coefficients are not directly comparable

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GCA/USPS-T7-10.

For interrogatories 10-14, please refer to the following attachment, Table One, which is compiled from your econometric estimation results for the First-Class Single-Piece equation, and from your experimentation with the Internet variable(s), as reported in R2006-1, USPS, LR-L-65, pages 65-3 to 65-6 and 65-198 to 65-290. Column 1 shows the page number for each experiment; Column 2 shows the Internet variable(s) you included in the equation, Columns 3 and 4 show the estimated SP own price elasticity and the corresponding t-statistic; Columns 5 and 6 show the R-squared and adjusted R-squared for each run Table-2 is similar to Table-1 but ranked by the elasticity from the largest negative value to the largest positive value.

a Please confirm that the information in these tables is correct. If you cannot confirm, please provide the correct information.

b Please confirm that own price elasticity for the First-Class Single-Piece mail ranges from +0.101 to -0.319. If you cannot confirm, please provide the correct numbers.

c. Please confirm on grounds of textbook economic theory that model number 20 with the positive elasticity should be ignored. If you cannot confirm, please explain why.

d. Please confirm that different Internet variable(s) or variations of those variables results in a different own price elasticity. If you cannot confirm, please explain why.

e. Please confirm that based on levels of the $R^2$, or the adjusted $R^2$, practically speaking there is no material difference in statistical significance among these models. If you cannot confirm, please explain why and provide the appropriate tests.

f. Please confirm that the differences among the $R^2$ in these models are so minimal that for forecasting purposes any one of these models could be used. If you cannot confirm, please explain why and provide the appropriate tests.

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**Table One**
**Econometric Choice Trail**
**First-Class Single-Piece Mail**
**Ranked by Elasticity**

| Model Number | Page | Internet Variables | Elasticity | T-Statistic | $R^2$ | Adjusted $R^2$ |
|---|---|---|---|---|---|---|
| 5 | 65-215 | BROADBAND_LOGEF | -0.315 | -2.347 | 0.987 | 0.981 |
| 5 | 65-210 | C8_JSP_LOGEF<br>BROADBAND_LOGEF | -0.292 | -2.274 | 0.987 | 0.983 |
| 7 | 65-220 | SP_CUM_LOGEF<br>B5_CUM_LOGEF | -0.287 | -3.194 | 0.989 | 0.986 |
| 4 | 65-206 | SP_CUM_LOGEF<br>SP_CUM_LOGEF_T<br>SP_CUM_LOGEF_T2 | -0.224 | -2.794 | 0.992 | 0.985 |
| 16 | 65-258 | C8_JSP_LOGEF<br>BROADBAND_LOGEF | -0.226 | -2.234 | 0.989 | 0.986 |
| 3 | 65-202 | SP_CUM_LOGEF<br>SP_CUM_LOGEF_T2 | -0.196 | -2.659 | 0.992 | 0.989 |
| 23 | 65-287 | C8_JSP_LOGEF<br>C8_JSP_LOGEF_T<br>C8_JSP_LOGEF_T2 | -0.194 | -2.354 | 0.992 | 0.990 |
| 12 | 65-241 | C8_JSP_LOGEF<br>C8_JSP_LOGEF_T<br>C8_JSP_LOGEF_T2 | -0.183 | -3.126 | 0.993 | 0.990 |
| 8 | 65-234 | C8_JSP_LOGEF<br>C8_JSP_LOGEF_T | -0.182 | -2.338 | 0.992 | 0.990 |
| 11 | 65-236 | C8_JSP_LOGEF<br>C8_JSP_LOGEF_T<br>C8_JSP_LOGEF_D2 | -0.178 | -3.083 | 0.993 | 0.990 |
| 13 | 65-246 | SP_CUM_LOGEF<br>SP_CUM_LOGEF_T | -0.177 | -2.127 | 0.991 | 0.988 |
| 14 | 65-250 | SP_CUM_LOGEF<br>SP_CUM_LOGEF_T | -0.177 | -2.331 | 0.992 | 0.989 |
| 10 | 65-232 | C8_JSP_LOGEF<br>C8_JSP_LOGEF_T | -0.154 | -2.014 | 0.992 | 0.989 |
| 1 | 65-3 | SP_CUM_LOGEF | -0.154 | -1.936 | 0.991 | 0.988 |
| 15 | 65-254 | SP_CUM_LOGEF<br>SP_CUM_LOGEF_T<br>SP_CUM_LOGEF_T2 | -0.143 | -1.759 | 0.992 | 0.990 |
| 9 | 65-238 | C8_JSP_LOGEF<br>C8_JSP_LOGEF_D | -0.130 | -1.674 | 0.991 | 0.988 |
| 21 | 65-279 | C8_JSP_LOGEF<br>C8_JSP_LOGEF_T2 | -0.125 | -1.694 | 0.991 | 0.989 |
| 19 | 65-270 | C8_JSP_LOGEF<br>C8_JSP_LOGEF_T | -0.124 | -1.405 | 0.990 | 0.987 |
| 2 | 65-198 | SP_CUM_LOGEF<br>SP_CUM_LOGEF_T | -0.123 | -1.499 | 0.992 | 0.990 |
| 22 | 65-283 | C8_JSP_LOGEF<br>C8_JSP_LOGEF_T<br>C8_JSP_LOGEF_D2 | -0.10? | -1.143 | 0.990 | 0.987 |
| 18 | 65-266 | SP_CUM_LOGEF<br>B5_CUM_LOGEF | -0.100 | -1.176 | 0.991 | 0.988 |
| 17 | 65-262 | SP_CUM_LOGEF<br>BROADBAND_LOGEF | -0.096 | -1.143 | 0.991 | 0.988 |
| 20 | 65-274 | C8_JSP_LOGEF<br>C8_JSP_LOGEF_D | 0.019 | 0.153 | 0.987 | 0.983 |

Note: #1 is similar to R2005-1 and #23 is the final estimator for R2006-1.

Source: R2005-1, USPS witness Thress, LR-L-45, Pages 65-3 to 65-5 and 65-198 to 65-293

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RESPONSE:

a. The equation identified by you as Model Number 6 includes the Internet variables ISP_CUM_LCOEF and BROADBAND_LCOEF. Beyond that, I can confirm everything in Table One.

b. Not confirmed. The estimates of the own-price elasticity which are shown in Table One range from -0.319 to +0.019. See my response to part d. below.

c. Confirmed that I would reject Model Number 20 out of hand on the grounds that the positive own-price elasticity does not conform to standard economic theory.

d. Not confirmed. The estimated own-price elasticities differ across the 23 models shown in Table One. The true own-price elasticity of First-Class single-piece letters is not a function of the model chosen to estimate that elasticity, but instead is a function of the attitudes and preferences of consumers of First-Class single-piece letters. I believe that the best estimate of this own-price elasticity is -0.184.

e. Not confirmed. Although the range of $R^2$ and adjusted-$R^2$ values in Table One may appear to be relatively narrow, between 0.983 and 0.993, in fact, this apparent narrowness is a result of two factors which make your statement that "there is no material difference in statistical significance among these models" incorrect.

First, the nature of $R^2$, which expresses the percentage of variance in the dependent variable which is explained by a particular model, may give the illusion that most of the variance for a particular dependent variable, when, if fact, a large amount of the variance remains unexplained or inadequately explained. This is particularly true when much of the variance in a variable takes the form of a persistent trend. In such a case, any variable which exhibits a similar trend (as is the case here) will appear to explain the vast majority of the variance of the

dependent variable. In many cases, however, such high $R^2$ values are largely illusory and indicative of nothing more than the existence of an underlying trend in the dependent variable of interest.

For example, the demand equation for Mailgrams used in this case has a reported $R^2$ value of 0.961, suggesting that nearly all of the variance in Mailgrams volume is explained by this equation. Yet, the standard error of the Mailgrams model in this case is 0.223, meaning that the average in-sample error term for this equation is greater than 20% in absolute value.

Second, the goal of econometric estimation is not to maximize the explained variation but to minimize the unexplained variation within a model. While these two goals are, in some sense, literally identical there is an important distinction Improving the adjusted-$R^2$ value in an equation from 0.986 (Model Number 7) to 0.990 (Model Number 23, which is used by me to make volume forecasts in this case) increases the explained variation in the model by 0.4 percent. Yet, reducing the percentage of variance which is unexplained from 0.014 (1 – 0.986) to 0.010 (1 – 0.990) reduces the unexplained variation in the model by nearly 30 percent.

Because of these limitations of $R^2$ and adjusted-$R^2$ measures, my preferred diagnostic measure for evaluating demand equations is mean-squared error Mean-squared error is equal to the sum of the squared residuals divided by the number of degrees of freedom. This is equivalent to the square of the standard error of the model and can therefore be thought of as measuring the variance of a model.

The mean-squared errors (which are reported within Library Reference LR-L-65) for the models presented in Table One range in value from 0.000232 to 0.000453. The latter of these is 95 percent greater than the former, a range which is far more indicative of the true range of these models.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
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f. Not confirmed. Please see my response to part e above

RESPONSE OF POSTAL SERVICE WITNESS THRESS
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GCA/USPS-T7-11.

From the attached Table One, please refer to model #7 and your chosen model for the single piece demand equation, model #23. The own price elasticity for model #7 is -0.287 which is significantly higher than -0.184 for your chosen model. These two models seem to have, practically and statistically, the same $R^2$ values (0.986 for model #7 and 0.990 for model #23). With respect to the t-statistic, however, model #7 greatly outperforms your chosen model #23 (-3.194 vs. -2.354).

a. Please confirm that with regard to the t-statistic for the elasticity coefficient, model #7 outperforms model #23, the final model you chose for R2006-1. If you cannot confirm, please explain why and provide the appropriate tests.

b. Please explain fully why you did decide to choose model #23 over model #7, since it appears that the latter model has an essentially equivalent $R^2$ and a much higher t-statistic.

RESPONSE:

Per your request, this response refers to the Table One attached to your question GCA/USPS-T7-10.

The own-price elasticity for model #7 (-0.287 with a standard error of 0.090) is not significantly higher than -0.184, differing by a mere 1.1 standard errors. In addition, the percentage of variation in First-Class single-piece letters volume which is unexplained in model #7 (0.014) is 40 percent greater than the percentage of variation in First-Class single-piece letters volume which is unexplained in model #23 (0.010), so that these two models do not have "the same $R^2$ values" either practically or statistically.

a. Not confirmed. The greater t-statistic for the own-price elasticity in model #7 is simply an artifact of the fact that the own-price elasticity in model #7 is further from zero. In fact, the own-price elasticity for model #23 has a lower standard deviation (0.078) than the own-price elasticity for model #7 (0.090).

b. As I explain in my response to GCA/USPS-T7-10, mean-squared error is a better measure of goodness of fit than $R^2$. Model #7 has a mean-squared error

of 0.000345 which is more than 40 percent greater than the mean-squared error of model #23 (0.000246).

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GCA/USPS-T7-12.

a. Please confirm that none of the Internet variables that you have experimented with can capture the pure textbook substitution effect due to the declining relative price of the substitute product. If you cannot confirm, please explain why and provide the appropriate tests.

b. Please confirm that none of the Internet variables you have experimented with reflects the price of the substitute product. If you cannot confirm, please explain why and provide the appropriate tests.

RESPONSE:

Per your request, this response refers to the Table One attached to your question GCA/USPS-T7-10.

a. Not confirmed. To the extent that First-Class single-piece letters volume has declined because of "the declining price of substitute product[s]", this effect can be captured econometrically by any variable which includes a similar trend This would be particularly true of variables, such as measures of aggregate Internet usage by households, which are driven by the same price. That is, to the extent that Internet penetration among households is driven by "the declining price of" Internet usage, then such a variable can, in fact, serve well as an econometric proxy for this "declining price" within the First-Class single-piece letters demand equation.

b. Not confirmed. None of the Internet variables with which I have experimented explicitly measure "the price of the substitute product." Nevertheless, as explained in my answer to part a. above, all of these variables will "reflect" such a price.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF GCA

GCA/USPS-T7-13.

Please refer to model #1 which is similar to R2005-1 and model #7 which is similar to your R2005-1 model but includes the cumulative Broadband variable. Please confirm that the inclusion of the broadband variable almost doubles the FCLM single piece own price elasticity of demand.

RESPONSE:

Per your request, this response refers to the Table One attached to your question GCA/USPS-T7-10.

Confirmed that the own-price elasticity estimate in model #7 of −0.287 is 87 percent greater than the own-price elasticity estimate in model #1. Please see my response to GCA/USPS-T7-10(d).

RESPONSE OF POSTAL SERVICE WITNESS THRESS
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GCA/USPS-T7-14.

Please refer to model #1 and model #6. Model #1 is similar to your R2005-1 model and model #6 is similar to model #1 but you have replaced the ISP_CUM with BROADBAND_CUM. However, model #6 has an elasticity over twice that for model #1 (-0.319 vs -0.154).

a. Since broadband technology seems to have the most dramatic effect on mail volume, and since it is the most rapidly growing type of Internet service replacing dial-up, please confirm that you did the same experiment with the broadband variable in R2005-1, and if so why you did not choose a model like #6 in that case rather than a model like #1.

b. Given the paramount importance of Broadband, why did you not choose a model like #6 for this case instead of the model you did choose?

c Given the seriousness of the persistent fall in single piece FCLM in recent years due to competition from the Internet, wouldn't it be better to err on the side of having too high an own price elasticity than too low a figure?

RESPONSE:

Per your request, this response refers to the Table One attached to your question GCA/USPS-T7-10.

a. I see no basis for your assertion that "broadband technology seems to have the most dramatic effect on mail volume." As shown in my Library Reference LR-L-65 adding the number of Broadband subscribers to the R2005-1 demand equation specification (Model Number 6) increases the mean-squared error of the First-Class single-piece letters demand equation by more than 50 percent from 0.000294 (Model Number 1, page 65-5 of LR-L-65) to 0.000453 (Model Number 6, page 65-217). This suggests to me that broadband technology, at least as measured by the number of Broadband subscribers, has not had "the most dramatic effect on mail volume" as compared to alternative Internet measures.

b. I do not understand your use of the term "paramount importance" here. Regardless, I chose Model Number 23 from Table One over Model Number 6

because Model Number 23 produced a mean-squared error (0 000246) more than 45 percent less than the mean-squared error associated with Model Number 6 (0.000453).

c. I see no relevance to the magnitude of the own-price elasticity vis-à-vis the "seriousness of the persistent fall in single piece FCLM in recent years due to competition from the Internet."

Given the seriousness of the persistent fall in First-Class single-piece letters volume in recent years due to competition from the Internet, I thought it would be best to err on the side of including the Internet measure which provided the best econometric fit for First-Class single-piece letters subject to the restriction that all of the explanatory variables included in the demand equation had reasonable coefficient estimates.

For the models presented in Table One, the lowest mean-squared error (0.000232) was obtained using Model #12 (page 65-241, ff.). This model included a time trend starting in 2002Q4 which had a coefficient of 0.129. "Given the seriousness of the persistent fall in single piece FCLM in recent years due to competition from the Internet" this seemed to be an inappropriate result and was therefore rejected.

Removing Model #12 from consideration, the lowest mean-squared error among the models shown in Table One was for Model #11 (0.000234) This model interacted ISP consumption with a dummy variable starting in 2002Q4 This term had a coefficient of 0.021, suggesting that the impact of the Internet on First-Class single-piece letters volume became less negative at this time. "Given the seriousness of the persistent fall in single piece FCLM in recent years due to competition from the Internet" this too seemed to be an inappropriate result and was also rejected.

Finally, removing Models #11 and #12 from consideration, the lowest mean-squared error was obtained from Model Number 23, which was therefore chosen by me to be used in this case.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
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GCA/USPS-T7-15.

Please refer to the following table compiled from R2005-1, USPS LR-K-64, pages 64-1 to 64-10 and LR-K-65, pages, 65-22 to 26, 65-57 to 61, and 65-62 to 65-65.

| Model # | Page | Internet Variable | Elasticity | T-Statistic | $R^2$ | Adjusted $R^2$ |
|---|---|---|---|---|---|---|
| 1 | 64-1 | ISP_CUM | -0.1747 | -2.1755 | 0.989 | 0.986 |
| 2 | 65-22 | BROADBAND_CUM | -0.4162 | -2.6315 | 0.983 | 0.976 |
| 3 | 65-57 | COMPPAY | 0.3797 | -2.8713 | 0.984 | 0.977 |
| 4 | 65-62 | NACHA | -0.3269 | -2.7625 | 0.987 | 0.983 |

As you have defined these variables on page 65-4, ISP_CUM is Internet experience, BROADBAND is the number of broadband subscribers, COMPPAY is the percentage of households which paid at least one bill via computer, and NACHA is automated clearing house transactions. Model #1 is the final model you chose in R2005-1.

a. Please confirm that the information given in the above table is correct. If you cannot confirm, please provide the correct information.

b. Please confirm that models 2-4 all have elasticity values several times larger than the model you decided to choose in R2005-1. If you cannot confirm, please explain why.

c. Please confirm that models 2-4 also have larger t-statistic values than model #1, your chosen model for R2005-1. If you cannot confirm, please explain why.

d. Please confirm that, as far as the t-statistic is concerned, any one of the models 2-4 is superior to model #1, your chosen model. If you cannot confirm, please explain why.

e. Please confirm, that with respect to $R^2$, there is essentially no difference among the four models given in this table. If you cannot confirm, please explain why.

f. Please confirm that, as far as the adjusted $R^2$ is concerned, there does not seem to be much of the difference among these models; more specifically, between your chosen model #1 and model #4. If you cannot confirm, please explain why.

g. Please confirm that considering the t-statistic and $R^2$ or adjusted $R^2$, model #4 is superior to your chosen model #1. If you cannot confirm, please explain why.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
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h. Please confirm that had you chosen model #4, with the NACHA as the Internet variable instead of model #1, with your ISP Internet experience variable, the elasticity would have been –0.3269 rather than –0.1747. If you cannot confirm, please explain why.

i. Please confirm that had you chosen model #2, with the BROADBAND as the Internet variable instead of model #1, with your ISP Internet experience variable, the elasticity would have been –0 41629 rather than –0.1747. If you cannot confirm, please explain why.

RESPONSE:

a. Confirmed

b. Not confirmed. Dictionary.com defines the word several as "[b]eing of a number more than two or three but not many " None of the elasticity estimates shown above exceed the own-price elasticity which I used in R2005-1 by a factor of more than 2.4 and, in fact, the own-price elasticity estimate in model 4 is not even twice as large as my R2005-1 own-price elasticity.

c. Confirmed

d. Not confirmed. The fact that models 2. 3. and 4 exhibit higher t-statistics on the own-price elasticity is simply a function of the fact that the own-price elasticities in models 2, 3, and 4 are further from zero than the model 1 own-price elasticity. In fact, the variances associated with the own-price elasticity are larger for models 2, 3, and 4 than in the case of model 1.

e. Not confirmed. The percentage of total variance that is unexplained (i.e., one minus $R^2$) is 15 to 35 percent greater in models 2, 3, and 4, as compared to model 1.

f. Not confirmed. Please see my response to e.

g. Not confirmed. The demand equation for First-Class single-piece letters which was adopted and used by the Postal Rate Commission in R2005-1 (model 1 here) is clearly superior to models 2, 3, and 4 above for the reasons given in my answers to parts d and e above.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF GCA

h. Confirmed that the choice of an inferior model in R2005-1 might have led to a less accurate own-price elasticity estimate.

i. Confirmed that the choice of an inferior model in R2005-1 might have led to a less accurate own-price elasticity estimate.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF GCA

GCA/USPS-T7-16.

Please refer to R2006-1, USPS LR-L-65, pages 65-3 to 65-6 and 65-198 to 65-290, specifically to the coefficient for the worksharing discount variable, D1_3WS.

a. Please confirm that the estimated values of D1_3WS coefficient in all 23 model runs you have conducted for FCLM single piece mail are different. If confirmed, please fully explain why the estimated coefficient of D1_3WS variable differs across these 23 model runs. If you cannot confirm, please explain why.

b. Please confirm that the coefficient of the D1_3WS variable is not directly estimated in any of the 23 FCLM single piece model runs, that instead it is a predetermined fixed value which is obtained from your worksharing equation and essentially converted to a negative sign and inserted into the FCL single piece equation. If you cannot confirm, please explain why.

c. If your answer to (b) is affirmative, please confirm that given the apparent fixed nature of the coefficient of the D1_3WS variable when estimating the FCLM single piece equation, this coefficient will not change. If you cannot confirm, please explain why. If this is a recursive process, please explain how it s conducted.

d. For comparing these models shouldn't the value of this coefficient for the D1_3WS variable, be kept constant across these runs? Please fully explain

e. If you had kept the value of this coefficient for the D1_3WS variable, the same across these models, wouldn't it have a different effect on the estimated own price elasticity of FCLM single piece mail? Please fully explain.

f. To be econometrically appropriate, should you not first finalize the worksharing model with an Internet variable assumption, and then experiment with the FCLM single piece equation? Please fully explain.

RESPONSE:

a. Confirmed. The estimated coefficient of D1_3WS differs across the 23 model runs outlined in Table One because the set of explanatory variables used to estimate all of the coefficients in the First-Class single-piece letters equation differ across these 23 models.

b. Not confirmed. The coefficient of D1_3WS is estimated within the First-Class single-piece letters equation subject to a stochastic restriction which is estimated

from the First-Class workshared letters equation. This restriction is not imposed with certainty; instead, the coefficient is estimated within the First-Class single-piece letters equation based, in part, on information drawn from the First-Class workshared letters equation. Please see my testimony at pages 53 – 55 and page 311, line 10 through page 312, line 8

c. Not applicable.

d. The stochastic restriction on D1_3WS was kept constant across each of the 23 models for First-Class single-piece letters presented in Table One.

e. As stated in my response to part d above, the restriction on D1_3WS was kept constant across each of the 23 models for First-Class single-piece letters which are being discussed here.

f. Yes. This was, in fact, exactly what I did in this case.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF NAA

NAA/USPS-T7-1: Please refer to page 17, lines 2-5 of your testimony. Did you receive sub-category specific volume figures from the Revenue, Pieces, and Weight Report (RPW) (for example, volume figures for Standard Enhanced Carrier Route High Density or High Density flats)?

RESPONSE:

Yes. I received RPW data for at least as fine a level of detail as presented in Attachment A of my testimony. For example, Standard Enhanced Carrier Route (ECR) volume is sub-divided into seven sub-categories in Attachment A: Automation letters, Basic letters, Basic non-letters, High Density letters, High Density non-letters, Saturation letters, and Saturation non-letters. In some cases, RPW data is available at a level of detail even finer than that shown in Attachment A, although I made no use of such detail in this case.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF NAA

NAA/USPS-T7-2: Please refer to page 18, lines 1-6 of your testimony, and to USPS-LR-L-63, pages 21-25.

a. Which data did you use to calculate the own-price elasticities?

b. For Standard Enhanced Carrier Route mail, you create a single average price index for the demand equation. Witness Kiefer (USPS-T-36) recommends different price increases for each sub-category, although your volume forecasts are based on average prices for each category.

1. Did you account for possible future variation in the volume composition of each mail class (for example, less Standard Enhanced Carrier Route Saturation volume and more Standard Enhanced Carrier Route Basic volume), and thus to variations in average prices?

2. If so, what changes in volume composition and relative subcategory prices (for example relative Standard Enhanced Carrier Route Basic and High Density prices) did you make before forecasting future volume?

3. If you did not account for composition changes, why not?

RESPONSE:

a. Own-price elasticities are estimated within an econometric equation which includes the total Standard ECR mail volume per adult per Postal delivery day as its dependent variable and a series of independent variables, which are listed on page 121 of my testimony, including a fixed-weight price index for Standard ECR mail, which is shown in Table 63-5 on pages 24 – 27 of Library Reference LR-L-63.

b. I forecast Standard ECR mail volumes at the sub-category level, so that, for example, the volume of Saturation letters is forecasted by applying the own-price elasticity for Standard ECR mail to the price of Saturation letters. In this way, differences in proposed rate changes across sub-categories are therefore accounted for in my volume forecasts.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF NAA

Step-by-step volume forecasts for Standard ECR mail are described in detail in section II of Library Reference LR-L-66.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF NAA

NAA/USPS-T7-3: Please refer to page 24, lines 4-10 of your testimony.

a. When was this part of your testimony prepared?

b. When you discuss Internet use deepening, why do you cite data for the percentage of American households with Internet access rather than the household bill payment data presented by witness Bernstein in his Table 31?

c. Did you consider using figures from the Household Diary Survey (reported in USPS-LR-L-105 and witness Bernstein, Table 31) which detail the percentage of bills paid online by method and household? If not, why not?

RESPONSE:

a. I do not know exactly when any specific portion of my testimony was written, but it appears that I was given the numbers which I cite in that paragraph by witness Bernstein on March 31, 2006.

b. I do not understand your question here. My point, at page 24, lines 4-10 referenced by you in this question, is that the percentage of bills paid online has grown far faster than the percentage of households with Internet access. The "deepening" Internet use here is the increasing use of the Internet to pay bills. The numbers which I cite at page 24, line 5 ("the percentage of bills paid via the Internet rose from 3.6 percent in 2001 to 12.6 percent in 2005") are consistent with the data presented by witness Bernstein.

c. On page 24 of my testimony, line 5, as quoted in my response to b. above, I specifically document "the percentage of bills paid online" using Household Diary Study data as my reference. In addition, Table 9 on page 48 of my testimony presents the share of regular household bills paid, by method, in the years 1995, 2000, and 2005. Again, the source of this data is the Household Diary Study.

Prior to R2005-1, I did experiment with the possibility of including household bill-payment data as an explanatory variable in the First-Class single-piece letters equation. The results of these experiments, which were generally unfavorable,

are discussed in my R2005-1 testimony (USPS-T-7) at page 32, and in Library Reference LR-K-65 at pages 52 – 56.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF NAA

NAA/USPS-T7-4: Please refer to page 49, lines 12-18 of your testimony.

a. Please refer to Table 31, page 59, and page 60, lines 1-7 of witness Bernstein's testimony, where he discusses static depth within categories of households that use the Internet for bill payments. Please reconcile Mr Bernstein's testimony with your testimony at page 24, lines 8-10, that " ..it appears to be the case that the depth of the use of the Internet to pay bills has increased dramatically between 2001 and 2005."

b. In light of the Bernstein testimony cited in (a), why do you think it appropriate to include trend variables related to increasing Internet diversion depth?

c. Why did you interact a trending variable on the coefficient of the ISP Consumption variable to model Internet diversion deepening?

d. How did you determine the magnitude of this trending variable?

RESPONSE:

a. The basis for my statement that "it appears to be the case that the depth of the use of the Internet to pay bills has increased dramatically between 2001 and 2005" (page 24, ll. 8-10) is self-evidently the data presented on line 5 of the same page. What Mr. Bernstein describes on page 60 of his testimony is the observation that the percentage of bills paid online is relatively constant over time **within the subset of mailers who pay bills online**. The percentage of households which pay at least some bills online, however, has increased dramatically over this time period, from 7.6 percent in 2001 to 24.4 percent of all households in 2005, as documented by witness Bernstein in Table 29 on page 57 of his testimony.

b. I believe that it is appropriate to include trend variables related to increasing Internet diversion depth precisely because, as shown in Table 29 of witness Bernstein's testimony, the percentage of households which pay at least some of their bills online has increased by more than 220 percent from 2001 to 2005.

c. As I explained in my testimony at page 26 (see especially lines 3-15), the ISP consumption variable "represent[s] an estimate of the number of Internet users over time" (p. 26, ll. 4-5). "The increasing depth of Internet use is then modeled by allowing the coefficient on the ISP variable to change over time in the demand equations presented here. This allows the impact of ISP consumption on mail volume to increase over time even if the level of ISP consumption were to reach its peak." (p. 26, ll. 11-15)

d. The magnitude of the trending variable is estimated econometrically.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF NAA

NAA/USPS-T7-5: Please refer to your volume forecasting workbook, "vf_ar.xls," provided in Library Reference USPS-LR-L-66. Please refer to the worksheet "NR Mult.," which calculates the "nonrate effect multipliers" that are used in your volume forecasts.

a. Please confirm that these non-rate effect multipliers are the anti-log of the dot-product of your non-rate data and the estimated parameters from the regression you ran for each particular class of mail.

b. Given that you are forecasting based on a log-log model, why did you not find it appropriate to correct for the lognormal distribution—that is, why did you not multiply the anti-logged dot product by the anti-log of one-half of the mean-squared error of the particular regression? If you did indeed make this correction, please advise where that correction can be found in your testimony.

RESPONSE:

a. Confirmed.

b. I did not make this adjustment because my forecasts are not straight regression-line forecasts, but instead are constructed using a base-volume forecasting methodology, as outlined in Chapter IV of my testimony.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF NAA

NAA/USPS-T7-6: What costs are included in the "Producer price index for direct-mail advertising" in your demand equation for Standard Enhanced Carrier Route
mail?

RESPONSE:

The producer price index for direct-mail advertising is compiled by the Bureau of Labor Statistics (which identifies it as WPI093705NS). It is my understanding that this index is constructed from a survey of businesses which provide direct-mail advertising printing services and includes all of the costs associated with printing and mailing a piece of direct-mail advertising except for postage costs.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF NAA

NAA/USPS-T7-7: Is it your understanding that a portion of Standard Enhanced Carrier Route mail is sent by "shared" mailings in which advertising from more than one advertiser is included in a single mailed item (examples might be shared mailings by companies such as Advo, Val-Pak, and newspaper Total Marketing Coverage mailing programs)?

RESPONSE:

Yes.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF NAA

NAA/USPS-T7-8: In your forecasting model for Standard Enhanced Carrier Route mail, do you take into account in any way the prices charged by ECR mailers to advertisers whose advertising is included in a shared mailing?

RESPONSE:

Not explicitly. To the extent that "the prices charged by ECR mailers to advertisers whose advertising is included in a shared mailing" are a function of the price of direct-mail advertising, as defined in my response to NAA/USPS-T7-7, and the price of Standard ECR mail, these prices should be implicitly captured through these variables.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF NAA

NAA/USPS-T7-9: Does your forecasting model for Standard Enhanced Carrier Route mail specifically take into account newspapers' usage of Standard ECR mail as part of their Total Market Coverage programs? If not, in what variable would such usage be reflected?

RESPONSE:

My forecasting models do not distinguish between different users of a particular type of mail but instead reflect the aggregate responses across all mailers to changes in the various explanatory variables which are included in my equations. So, the behavior of newspapers in their use of Standard ECR mail will be reflected in all of the variables which are included in my demand equation associated with Standard ECR mail.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF NAA

NAA/USPS-T7-10: Please refer to the USPS RPW Survey for GY2004 and to LR-J-125 (sponsored by witness Tolley for docket R2001-1), workbook vf_ar, tab "Forecast Vols", cells AG38 to AM38. Note that Tolley's 2001 forecasting model, which is the basis of your 2006 model, overestimated total ECR volume by some 3.24 billion pieces for GY2004 (roughly 10% of total ECR volume). How did you account for previous overestimation in your revised 2006 forecasting model? Have you subsequently re-estimated the 2001 model and, in so doing, generated new forecast errors for that updated model? If so, were you able to reduce the forecast error for ECR volume?

RESPONSE:

The demand equation for Standard ECR mail volume which I use in this case includes a dummy variable beginning in 2001, which explains an inadequately explained decline in Standard ECR mail volume of 8.5 percent at that time. This variable is discussed briefly in my testimony between page 119, line 19, and page 120, line 11. I have not had occasion to re-estimate the 2001 model.

**RESPONSE OF POSTAL SERVICE WITNESS THRESS TO INTERROGATORIES OF NNA**

NNA/USPS-T7-1

Please provide the basis for your statement on p. 220, line 6, that the Within County subclass "is comprised of small publications (mostly newspapers)" In particular, how do you know the subclass consists mostly of newspapers? Have you looked at whether this composition is primarily daily newspapers or newspapers published less frequently, such as weekly, twice weekly or thrice-weekly? Please explain your response.

**RESPONSE**:

This has been my understanding of the composition of the Within-County subclass since I began working on Postal volume forecasts prior to R94-1. I am not aware of any data sources which decompose Within County mail volume into newspapers and magazines, much less which decompose Within-County newspapers based upon the frequency of delivery.

**RESPONSE OF POSTAL SERVICE WITNESS THRESS TO INTERROGATORIES OF NNA**

NNA/USPS-T7-2

Please refer to the chart on p 228 of your testimony

a. If you believe the subclass consists mostly of newspapers, please confirm that this mailing subclass requires publishers to distribute copies primarily to subscribers. If you do not believe this statement, please explain your answer.

b. Do you have any data indicating that newspaper subscription trends are subject to seasonal variations? If so, please provide it. If not, please provide the assumption that led to the seasonal adjustments on this chart, and explain whether these adjustments include any assumptions about the nature of periodicity of the newspapers in the subclass.

c. Please describe your level of confidence in that your own price elasticity and employment variables influence Within County mail volume per adult per delivery day and fully explain your response.

d. Please review the following paragraph on pg. 223: "Periodicals Within-County mail is mail sent primarily within the county of publication. In general, Periodicals Within-County mail volume is affected by the same factors as 3 other types of Periodicals mail. There are, however, two significant omissions from the Periodicals Within-County demand equation: the price of paper and printing and the number of broadband subscribers. Neither of these variables was found to influence Periodicals Within-County mail volume. It is not entirely clear why these variables appeared to have no effect on Within-County mail volume. My hypothesis is that the producer price index for pulp, paper, and allied products may be a poor estimate of the cost of preparing Within-County mail and that the specific nature of Within-County mail makes it somewhat less vulnerable to Internet diversion." Please provide the best statistical results, including T-tests, that you achieved with the variables for paper and broadband subscribers before you decided to reject them in this analysis.

e. Please provide any other runs that you did where the dependent variable for Within County mail was something other than Within County mail volume per adult per postal delivery day and explain why you did or did not take them into consideration in your analysis on this table.

f. Have you examined the history of Within County rates in LR 73-1 or any other data describing the pattern of postage rate increases since 1970? If you have, please describe the period you examined, if any?

g. Please describe your level of confidence in the own-price elasticities provided in table 225.

## RESPONSE OF POSTAL SERVICE WITNESS THRESS TO INTERROGATORIES OF NNA

h. Please confirm that the changes in time trend since 1993 that you describe roughly equate to the time period in which US adults acquired new possible information substitutes, such as the Internet. Can you explain why the amelioration in Within County that you see may have occurred within the time when information alternatives were growing rather than subsiding?

i. Do you attribute the decline in Within County mail volumes primarily to the factors under the column heading "Inflation" in Table 54?

**RESPONSE:**

a. It is my understanding that it is necessary to distribute copies primarily to subscribers in order to qualify for Periodicals rates regardless of whether the Periodical in question is a newspaper or not.

b. The seasonal coefficients presented in Table 55 on page 228 of my testimony are estimated empirically. That is, the extent to which these seasonal coefficients differ across different time periods form the basis for any assumptions which I have with regards to the periodicity of Periodicals Within-County mail volume.

c. My estimate of the own-price elasticity of Periodicals Within-County mail is −0.141. This estimate has a standard error of 0.127. My estimate of the elasticity of Within-County mail with respect to employment of 0.876 has a standard error of 0.450. I am confident that each of these numbers represents the best possible estimate of the impact of these factors on Periodicals Within-County mail volume.

d. My most recent experiments with the price of paper and the number of Broadband subscribers as candidate explanatory variables were in preparation of my R2005-1 testimony. Econometric equations including these variables can be found in Library Reference LR-K-65, filed with that case, at pages 705 – 735.

**RESPONSE OF POSTAL SERVICE WITNESS THRESS TO INTERROGATORIES OF NNA**

e. I have not investigated any alternate dependent variables for Periodical Within-County mail other than per adult per Postal delivery day for at least the last several rate cases.

f. The price of Periodical Within-County mail is an explanatory variable within my demand equation presented in this case. This equation is estimated over a sample period starting in 1983.

g. I do not understand this question. My testimony does not have 225 tables and the table on page 225 (Table 54) does not present own-price elasticities. The numbers shown in Table 54 are the estimated impact of various factors on Periodicals Within-County mail volume historically and through the forecast period used in this case. My confidence in these numbers is directly related to my confidence in my econometric estimate of the own-price elasticity of Periodicals Within-County mail.

h. Confirmed that the Internet has grown in importance coincident with the positive time trend in the Periodicals Within-County demand equation that starts in 1993Q1. I can only surmise that the factors which have led to the amelioration of the negative trend in Periodicals Within-County mail volume over this time period have been largely unrelated to the coincident increase in the importance of the Internet.

i. No. Inflation has had a consistent positive influence on Periodicals Within-County mail volume as shown in Table 54. The primary factor driving the historical decline in Periodicals Within-County mail volume in Table 54 is Time Trends.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF POSTCOM

POSTCOM/USPS-T7-1.

Have all data necessary to replicate all of the models outlined in the "LIBRARY REFERENCE USPS-LR-L-64: DEMAND ANALYSIS ECONOMETRIC MATERIALS" (herein referred to as "final model") been produced within the following library references: LR-L-63, LR-L-64, LR-L-65, LR-L-66 (herein referred to LR-L-63 – 66) in the requested Data Format? If so, please describe its location within these files. If not, please provide all the data necessary to replicate the models in the requested Data Format.

RESPONSE:

Yes. All of the data used to produce all of the econometric models outlined in LR-L-64 are provided in the Excel file entitled R2006Data.xls, which was provided with LR-L-64.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF POSTCOM

POSTCOM/USPS-T7-2.

Have all data necessary to replicate all of the models outlined in the "LIBRARY REFERENCE USPS-LR-L-65: DEMAND ANALYSIS ECONOMETRIC CHOICE TRAIL" (herein referred to as "exploratory analysis") been produced within LR-L-63 – 66 in the requested Data Format? If so, please describe its location within these files. If not, please provide all the data necessary to replicate the models in the requested Data Format.

RESPONSE:

No. Although it goes beyond my understanding of what Rule 31 requires, an updated version of R2006Data.xls, which includes all of the data necessary to replicate all of the models outlined in LR-L-65, is being attached as an Excel file to this response.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF POSTCOM

POSTCOM/USPS-T7-3.

Have all EViews programs and workfiles necessary to replicate all of the models outlined in the "LIBRARY REFERENCE USPS-LR-L-64: DEMAND ANALYSIS ECONOMETRIC MATERIALS" (final model) been produced within library reference LR-L-64? If not, please provide all the programs and workfiles necessary to replicate the models. Please include a Glossary of Variable Names for each program provided.

RESPONSE:

Yes.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF POSTCOM

POSTCOM/USPS-T7-4.

Have all EViews programs and workfiles necessary to replicate all of the models outlined in the "LIBRARY REFERENCE USPS-LR-L-65: DEMAND ANALYSIS ECONOMETRIC CHOICE TRAIL" ("exploratory analysis") been produced within the LR-L-65 library reference? If not, please provide all the programs and workfiles necessary to replicate the models. Please include a Glossary of Variable Names for each program provided.

RESPONSE:

No. Although it goes beyond my understanding of what Rule 31 requires, two EViews programs (Postcom.T7.Q4.Attach.1 prg and Attach.2.prg), are electronically attached to this response. The former of these EViews programs generates the regression output presented in section II of LR-L-65, while the latter EViews program generates the regression output presented in section IV of LR-L-65.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF POSTCOM

POSTCOM/USPS-T7-5.

Do each of the programs referred to in questions POSTCOM/USPS-T7-3 – 4 include all necessary variables definitions as a function of the data provided in LR-L-63 to reproduce final model results? If not, please produce the additional programs and workfiles necessary to fully replicate the models outlined above. Please include a Glossary of Variable Names for each program provided.

RESPONSE:

All of the data used in my econometric investigations are either transformed within R2006Data.xls or within the EViews programs themselves. All of the variable names used by me in this case should be defined in the Glossary on pages 63-107 through 63-117 of Library Reference LR-L-63 filed by me in this case.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF POSTCOM

POSTCOM/USPS-T7-6.

Are the contents of the files DEQN.PRG (the text of which starts on page 64-276) and demandequations.prg (a separate file in LR-L-64) equivalent? Refer to page 38 of DEQN.prg with the line that reads: "%ols_start = "1993:1". If these files are not equivalent, please describe the differences and confirm which code produces the final model results.

RESPONSE:

Yes, as far as I know, these are identical. I do not understand the reference to "page 38 of DEQN.prg." As far as I can tell, this program only spans 30 pages of LR-L-64. If some differences do exist of which I am not aware, I am certain that the correct code is found in the EViews file, Demandequations.prg, filed with Library Reference LR-L-64.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF POSTCOM

POSTCOM/USPS-T7-7.

Have any calculated formula results in the Excel spreadsheets provided within library references LR-L-63 – 66 been overwritten using the 'Paste Special... Values' feature in Excel, or been otherwise hidden or removed from view? If so, please produce versions of all Excel spreadsheets with all calculated formulas intact and operational.

RESPONSE:

Not that I am aware of.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF POSTCOM

POSTCOM/USPS-T7-9.

Please produce quarterly volume data for all variables underlying Tables 24 and 25 of USPS-T-7 in all available years after 1970, including but not limited to volume data for Standard Regular mail. Please deliver this data in the requested Data Format with an accompanying Data Dictionary. If this data in the requested Data Format is already available in library references LR-L-63 – 66, please describe its location within the files.

RESPONSE:

The data used in my econometric demand equation for Standard Regular mail, the results of which are presented in Tables 24 and 25 of USPS-T-7 is presented in the Excel spreadsheet R2006Data.xls in LR-L-64. The derivation and descriptions of this data can be found in Library Reference LR-L-63 and in the Excel spreadsheets which were filed accompanying that library reference.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF POSTCOM

POSTCOM/USPS-T7-10.

Please produce details of the exploratory analysis of Standard Regular mail related to Tables 24 and 25 of USPS-T-7, including any variables included but not presented or examined, but excluded from the final analysis (e.g. prices of newspapers). Please provide all the programs and workfiles necessary to replicate the analysis. Please include a Glossary of Variable Names for the analysis provided. Please deliver all data in the requested Data Format with an accompanying Data Dictionary. If any or all programs, workfiles and data in the requested Data Format are already available in library references LR-L-63 – 66, please describe its location within the files.

RESPONSE:

The details of my exploratory analysis of Standard Regular mail are presented in my testimony (USPS-T-7) at pages 91 – 114. The Standard Regular demand specification is unchanged in this case as compared with R2005-1. The details of my exploratory analysis of Standard Regular mail in that case can be found in my R2005-1 testimony (USPS-T-7) as well as in my choice trail library reference in that case (LR-K-65).

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF POSTCOM

POSTCOM/USPS-T7-13.

Please produce quarterly price and volume data of other parcel carriers, including but not limited to FedEx, UPS, DHL, etc. for all years after 1970 for which it is available (separately for all delivery methods including but not limited to ground delivery). Please deliver the data in the requested Data Format with an accompanying Data Dictionary. If this data is already available in the requested Data Format in library references LR-L-63 – 66, please describe its location within the files. Please include a detailed description and examples of the methodology used to adjust the UPS, FedEx, and DHL numbers for ground package delivery to the Postal fiscal year.

RESPONSE:

Quarterly price and volume data for FedEx and UPS, to the extent to which I make use of them within my work in this case, can be found in the file Prices.xls, filed within LR-L-63, in this case, at sheets 'UPSGround', 'FedEx', and 'FedExGround.'

Although I am not familiar with them, I have been informed that other materials that possibly may include information of interest include:

Docket No. R84-1

USPS-LR-D-44 Express Mail Competitor Rates

Docket No. R90-1

USPS-LR-F-295 Twenty Years to Monopoly by United Parcel Service, Herbert Whitten & Associates, Inc. (May 30, 1990)

USPS-LR-F-296 UPS Combined Operating Statistics

USPS-LR-F-304 Diskette for Musgrave Competitor Average Revenue Series

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF POSTCOM

POSTCOM/USPS-T7-14.

Please produce details of the exploratory analysis for other parcel carriers, including but not limited to FedEx, UPS, DHL, etc. Include any variables included but not presented or examined, but excluded from the final analysis. Please provide all the programs and workfiles and data necessary to replicate the analysis. Please include a Glossary of Variable Names for the analysis provided. Please deliver all data in the requested Data Format with an accompanying Data Dictionary. If these programs, workfiles, and data in the requested Data Format are already available in library references LR-L-63 – 66, please describe its location within the files.

RESPONSE:

I do not understand what you are asking for here. I have made no exploratory analysis of any other parcel carriers beyond the cursory examination of their volumes presented within the body of my testimony.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF POSTCOM

POSTCOM/USPS-T7-15.

Please produce quarterly data for all variables underlying Tables 45 and 46 of USPS-T-7 in all available years after 1970, including but not limited to quarterly volume data for Bound Printed Matter. Please deliver this data in the requested Data Format with an accompanying Data Dictionary. If this data in the requested Data Format is already available in library references LR-L-63 – 66, please describe its location within the files.

RESPONSE:

The data used in my econometric demand equation for Bound Printed Matter, the results of which are presented in Tables 45 and 46 of USPS-T-7 is presented in the Excel spreadsheet R2006Data.xls in LR-L-64. The derivation and descriptions of this data can be found in Library Reference LR-L-63 and in the Excel spreadsheets which were filed accompanying that library reference.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF POSTCOM

POSTCOM/USPS-T7-16.

Please produce details of the exploratory analysis of Bound Printed Matter as presented in Tables 45 and 46 of USPS-T-7, including any variables included but not presented or examined, but then excluded from the final regression analysis. Please provide all the programs and workfiles necessary to replicate the analysis. Please include a Glossary of Variable Names for the analysis provided. Please deliver all data in the requested Data Format with an accompanying Data Dictionary. If programs, workfiles and data in the requested Data Format are already available in library references LR-L-63 - 66, please describe its location within the files.

RESPONSE:

The details of my exploratory analysis of Bound Printed Matter are presented in my testimony (USPS-T-7) at pages 186 – 193. Experiments which led to changes to the Bound Printed Matter demand specification in this case vis-à-vis R2005-1 are presented in LR-L-65 at pages 526 – 609.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO INTERROGATORIES OF POSTCOM

POSTCOM/USPS-T7-17.

In analyzing the cross-price elasticities of BPM with respect to Media Mail, and of Media Mail with respect to BPM, have you considered the content restrictions on BPM and Media Mail that may restrict the eligibility of the mail volumes for each subclass? If so, how? What volume data forms the basis of your assessment of these cross-price elasticities?

RESPONSE:

I am aware that content restrictions may restrict the eligibility of mail volumes for each of these subclasses. It is my understanding that these content restrictions have remained unchanged over the sample period over which I have estimated these cross-price elasticities. Because of this, I did not believe that it was necessary to take explicit account of such restrictions. To the extent that such restrictions may limit the extent to which these two subclasses may act as substitutes for one another, this will be incorporated within the econometric estimates of the cross-price elasticities of these two subclasses with respect to each other.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO POIR NO. 8, QUESTION 4

4. Please discuss the factors considered in the demand analysis of Classroom Rate Periodicals. Specifically,
   a. did you test the impact of primary and secondary school population trends on the combined demand equation for Nonprofit and Classroom Periodicals?
   b. Were any factors identified that contributed exclusively to the fluctuations in Classroom volume over the period 1970 to 2005?

**RESPONSE:**

No separate analysis of Classroom Rate Periodicals was attempted. It constitutes less than 4 percent of the combined volume under consideration.

a. No.

b. No.

RESPONSE OF POSTAL SERVICE WITNESS THRESS
TO POIR NO. 8, QUESTION 5

**5.** Please refer to your testimony where you state, at USPS-T-7 at 206: "In addition to affecting the price of newspapers and magazines by being incorporated into subscription rates, the price charged by the Postal Service will also affect the demand for Periodicals mail directly by affecting publishers' decisions over how to deliver their Periodicals. For example, the delivery requirements of many weekly newspapers can be satisfied by either mail or private delivery."

a. Has the Postal Service conducted any studies since the beginning of calendar year 2004 related to the feasibility of private delivery as an alternative to weekly newspaper delivery via the Postal Service? If so, please describe the findings.

b. Do you consider the second sentence in quoted passage to apply equally to all copies of weekly newspapers, or primarily to those intended for delivery within the county of publication? Please explain or clarify

**RESPONSE:**

a. Not that I am aware of.

b. As a purely hypothetical, I would guess that the delivery requirements of many weekly newspapers <u>can</u> be satisfied by either mail or private delivery regardless of the county of publication. Whether this sentence applies <u>equally</u> to all weekly newspapers is ultimately an empirical question which I have not investigated and for which I do not have the available data which would be necessary to investigate it. On the other hand, the general point I am making might also apply to certain daily newspapers with a national subscriber base, some copies of which are delivered by mail, and some by private delivery.

**RESPONSE OF POSTAL SERVICE WITNESS THRESS TO INTERROGATORIES OF VALPAK**

VP/USPS-T7-1

Please refer to your testimony, page 9, Table 1.

a. In column 2, does the 2005 GFY volume of ECR mail, indicated as 31,966.424 million pieces, include ECR automation letters? If so, what was the volume of ECR automation letters in GFY 2005?

b. (i) Does the 2008 GFY Before-Rates volume forecast for ECR mail (col. 4, 33,295.868 million pieces) include ECR automation letters? If so, what is the volume of ECR automation letters included?

(ii) Does the 2008 GFY After-Rates volume forecast for ECR mail (col. 7, 29,346.811 million pieces) include ECR automation letters? If so, what is the volume of ECR automation letters included?

**RESPONSE:**

a. Yes. The volume of ECR automation letters in GFY 2005 was 2,033.139 million pieces.

b. (i) Yes. The before-rates volume of ECR automation letters in GFY 2008 is projected to be 2,118.585 million pieces.

(ii) No.

**RESPONSE OF POSTAL SERVICE WITNESS THRESS TO INTERROGATORIES OF VALPAK**

VP/USPS-T7-2

a. Please refer to your testimony at Table 27 (USPS-T-7, p. 122), and please confirm that Table 27 indicates that the own-price elasticity of Standard (Commercial) ECR mail is estimated to be -1.079. If you do not confirm, please provide the correct figure for own-price elasticity of ECR mail.

b. Please refer to your testimony in Docket No. R2005-1, at Table 1 (USPS-T-7, p. 9), and please confirm that Table 1 indicates that the own-price elasticity of Standard (Commercial) ECR mail was estimated to be -1.093. If you do not confirm, please provide the correct figure for own-price elasticity of ECR mail in Docket No. R2005-1.

c. Referring to the own-price elasticity of Standard (Commercial) ECR mail in parts a and b, please discuss whether the decline in (absolute value of) own-price elasticity (from -1.093 to -1.079) is statistically significant.

**RESPONSE:**

a. Confirmed.

b. Confirmed.

c. The difference between these two own-price elasticity estimates is not statistically significant. The R2005-1 own-price elasticity estimate had a standard error associated with it of 0.220. The current own-price elasticity has a standard error of 0.175. The difference between these two own-price elasticities, 0.014, has an estimated standard error of 0.281 and is therefore not statistically significant at any meaningful level of significance.

**RESPONSE OF POSTAL SERVICE WITNESS THRESS TO INTERROGATORIES OF VALPAK**

VP/USPS-T7-3

a. Please refer to your testimony at Table 25 (USPS-T-7, p. 114), and please confirm that Table 25 indicates that the own price elasticity of Standard (Commercial) Regular mail is estimated to be -0.296. If you do not confirm, please provide the correct figure for own-price elasticity of Standard Regular Mail.

b. Please refer to your testimony in Docket No. R2005-1, at Table 1 (USPS-T-7, p. 9), please confirm that Table 1 indicates that the Postal own-price elasticity of Standard (Commercial) Regular mail was estimated to be -0.267. If you do not confirm, please provide the correct figure for own-price elasticity of Standard Regular Mail in Docket No. R2005-1.

c. Referring to the own-price elasticity of Standard (Commercial) Regular mail in parts a and b, please discuss whether the increase in (absolute value of) own-price elasticity (from -0.267 to -0.296) is statistically significant.

**RESPONSE:**

a. Confirmed.

b. Confirmed.

c. The difference between these two own-price elasticity estimates is not statistically significant. The R2005-1 own-price elasticity estimate had a standard error associated with it of 0.076. The current own-price elasticity has a standard error of 0.072. The difference between these two own-price elasticities, 0.029, has an estimated standard error of 0.105 and is therefore not statistically significant at any meaningful level of significance.

**RESPONSE OF POSTAL SERVICE WITNESS THRESS TO INTERROGATORIES OF VAL-PAK**

VP/USPS-T7-4

Please refer to your testimony at Figure 6 (USPS-T-7, p. 116).

a. Please confirm that the total volume of ECR mail in PFY 1996 was approximately 29.0 to 29.5 billion pieces. If not confirmed, please provide the total volume of ECR mail in PFY 1996.

b. Please confirm that the total volume of ECR mail in GFY 2005 was 31.97 billion pieces, as shown in Table 1 (USPS-T-7, p 9). If not confirmed, please provide the total volume of ECR mail in GFY 2005.

c. Please refer to your testimony at page 120, lines 22-23.

(i) Please explain in more detail what you mean by your reference to "a 26.4 percent decline in Standard ECR mail volume over the past ten years."

(ii) Please reconcile the 26.4 percent decline in volume over the past 10 years with your statement at page 115, lines 9-11, of your testimony that "[s]ince [1988] volume has been relatively flat, with 2003 volume of only 29.3 billion pieces. Standard ECR volume has grown by about 9 0 percent over the past two years, however."

**RESPONSE**:

a. Confirmed.

b. Confirmed.

c. (i) The 26.4 percent decline to which I refer in my testimony refers to the estimated econometric impact of changes to the nominal price of Standard ECR mail as well as a dummy variable for R97-1, as described in that paragraph of my testimony (page 120, lines 16 – 23). This 26.4 percent figure is shown in Table 26 of my testimony (page 118), in the row labeled "1995 – 2005, Total" in the column labeled "Own-Price." The price of Standard ECR mail is actually entered into my demand equation in real dollars, after adjusting for the impact of inflation. As shown in Table 26 of my testimony, the 26.4 percent decline in Standard ECR mail volume due to nominal postage rate increases has, in fact, been nearly offset by the positive impact of inflation on real Postal rates, which has acted to

increase Standard ECR mail volume by more than 23 percent over this same time period.

(ii) In addition to the impact of inflation on real postage prices, as explained in my answer to part (i), the negative impact of price changes on Standard ECR mail volume over this time period has been more than offset by other factors, including retail sales (+10.21 percent) and Investment (+10.36 percent).

CHAIRMAN OMAS: Is there any additional written cross-examination for Witness Thress?

(No response.)

CHAIRMAN OMAS: There being none, that brings us to oral cross-examination.

Three participants have requested oral cross: The Association of Postal Commerce and the Mailing Fulfillment Services Association; Greeting Card Association; and ValPak Direct Marketing Systems and ValPak Dealers Association.

Mr. Volner, you may begin.

CROSS-EXAMINATION

BY MR. VOLNER:

Q Good morning, Mr. Thress. My name is Ian Volner, and I'm going to be discussing some issues with you on behalf of the Association for Postal Commerce or PostCom and MFSA.

I want to start with a general understanding of how you developed the volume estimates for standard regular commercial mail. I think, although it's a little odd, I'd like to start with if you could turn to NAA-T-7-1 and your response to that, please?

A Okay.

Q You say in that response that you used RPW data for at least this final level of detail as

presented in Attachment A of your testimony. Now, there you were talking in the context of standard enhanced carrier route.

Am I correct in assuming that you used RPW data with respect to the standard mail regular/ commercial regular as well?

A Yes.

Q Now, are you aware that the Postal Service has proposed some changes in the structure of the standard regular commercial category?

A Yes.

Q You were given a library reference that was prepared I believe by Mr. Kiefer which showed how the volumes in the base year would fit into the new categories. Is that a fair --

A Yes.

Q Did you use that data in the development of your volumes for standard commercial regular?

A I used that data in the development of the after rates price, which was used to make the after rates volume forecast.

Q You used it in the development of the after rates own-price?

A Correct.

Q Okay. And the own-price is done at the

subclass level?

A For forecasting, I forecast at the category level. The own-price elasticity and the demand equation, those are done at the subclass level.

When it comes time to make the forecast I actually forecast, for example, automation five digit letter volume is a function of the price of automation five digit letters specifically. Those prices would have been where I used Mr. Kiefer's library reference.

Q Okay. When you then completed your volume estimates you did not estimate volume for, for example, the new category of non-flats machineables, did you?

A Correct. Correct.

Q So in some way you repackaged the information that was given to you from Witness Kiefer?

A Yes.

Q And how did you do that?

A Witness Kiefer, in the information he gave me, essentially gave me essentially a matrix of how mail in old categories would cross walk into the new category, and from that I, again within a specific category, looked at what percentage of this category is going to go into the various new categories and applied, you know, the average of those proposed

prices and called that that would be the after rates price for the existing category.

Q That would be the after rates prices for the existing category?

A Correct.

Q So then to the extent that there was volume in an existing category that had a price sensitivity, an own-price elasticity, the existing category would be reflected in that price? I mean the new category would be reflected in that price, but would not be explicitly stated as a volume output?

A Yes.

Q Okay. Good. To put it another way, you didn't really apply the own-price elasticity explicitly to NFMs?

A That would be correct.

Q Okay. What about there was another category which sort of existed in the past, and that is standard parcels. Did you explicitly apply an own-price elasticity to your volume forecast for standard parcels?

A No. My forecast distinguishes between letters and non-letters, so parcels would be a subset of non-letters that I don't make an explicit forecast of.

Q Now, one of the things that Mr. Kiefer did was within that non-flat machineable category is he had two different kinds of pieces, hybrid parcels and hybrid flats.

I assume that you did not differentiate in the development of your volume estimates or elasticities?

A Correct.

Q Okay. This is a foolish question, but lawyers are known for foolish questions. Could you have developed a specific elasticity for non-flat machineables or, for example, for standard parcels?

A Probably not. In order to estimate an elasticity, a price elasticity, you need to have a history of volume and prices and at some point the prices need to change, so obviously you can't estimate a price elasticity for a literally new category for which there is no price history at all.

In the case of parcels there is some price history. I'm not aware that there's a sufficiently detailed volume history that would allow one to estimate that though, no.

Q So that it's a problem of time series basically?

A Yes.

Q Okay. Good. Let me ask a slightly different question. Did anybody from the Postal Service when they gave you Library Reference 68 discuss with you the likely content?

By content I'm not talking about shape. I'm talking about what is an NFM in terms of its content? What is a standard parcel in terms of its content?

A No.

Q And you didn't do any investigation of that issue either?

A No.

Q Another stupid question. Could you turn to NAA-2? I think that your answer to (B) is essentially consistent with what you just told me if we applied it to the standard mail.

A Yes.

Q You forecast the volumes at the subclass level so that the volume of saturation letters in that case is forecasted by applying the own-price elasticity for the subclass --

A Yes.

Q -- to the price of saturation letters?

What is the effect of a relatively small volume of mail in the development of the own-price elasticity at the subclass level?

A Well, on subclass volume the own-price elasticity is modeled as subclass volume as a function of subclass price and the subclass price is calculated as a volume weighted average of the individual category, so obviously the smaller volume you have in a category the smaller impact it would show up in the price variable and presumably the smaller effect it would have in the overall calculation of the price elasticity.

Q Lawyers are known for stating the obvious, but I will do it one time. So that a large increase in the average price or the average revenue per piece in a small category -- for example, NFMs or parcels -- would not really have a significant effect on the own-price elasticity for the subclass?

A It would depend on the specific magnitude and the specific impact you're talking about. Ultimately it's an empirical question as far as how much impact it would actually have.

Q And you didn't really attempt to investigate that question?

A I have not. I have not made any effort to look at or estimate separate price elasticity of, for example, standard parcels, no.

Q Okay. Could you turn to GSA-8 and your

response?

A You mean GCA, I assume?

Q I'm sorry. GCA. I realize the response is rather long. The question is very long. What I'm particularly interested in is a discussion on the last page of that response in Item (E).

A Uh-huh.

Q You say that all other things being equal, ceteris paribus, a good is likely to be more own-price elastic the more available and closer are the substitutes for the product in question.

In what sense are you talking about product there? Are you talking about the subclass as a product or the particular category as a product?

A In the context of this particular question I'm talking about first class single piece letters. I'm talking about the category at the level of detail at which I estimate the own-price elasticity.

Q Okay. That's very helpful. In the next paragraph you point out, as economists always do, that ceteris is never paribus, that it is never the case that all things are equal.

You give an example, and I'd like to explore that example with you a little bit. Your example is that the introduction of a new product may induce more

price elastic consumers to stop using the old product, which would have the effect of actually lowering the price sensitivity elasticity of the old product.

Is it implicit in that example that the new product is lower priced than the old product?

A I think so.

Q Well, otherwise the more price sensitive people wouldn't move to the new product at all, assuming they had the choice.

A Presumably. I mean, assuming you either have literally identical products or you're talking about price in such a way as to reflect any differences in quality.

I mean, there are cases where some people may be willing to pay more essentially for a better product, but yes. Controlling for that, presumably more price sensitive people would be quicker to move to a lower priced product.

Q Now controlling for the issue of quality, which is a very legitimate point, let us take a hypothetical case where the quality is the same, but the new product is priced higher than the old product.

That would not have any effect on the elasticity of the old product, would it, because the more price sensitive people wouldn't be inclined to

deal with it?

A Again assuming people have a choice between the old and the new product, I would presume that more price sensitive people would choose the lower priced product, but ultimately I'm an economist so I'll say again ceteris is never paribus so ultimately it's an empirical question, and one would have to look at the data and see what actually happened.

Q Now, you made an important observation there. You said assuming that the consumer, the consumer of the product, had a choice.

What if, and this has happened outside the context of the Postal Service as well, as I'm sure you're aware, the provider of service says you no longer have a choice?

Your product, which was formerly your mail piece or your telephone service or your fax for that matter which was formerly treated as old product now must be entered as new product. We're not giving the choice anymore.

That would not have any effect on the elasticity of the old product, would it, or any really readily measurable effect on the elasticity?

A Well, again if you have a case where you have one existing product and you're going to split it

into two future products, one higher priced than the other, the average elasticity of the users of the original product, yes, their price elasticity presumably shouldn't change.

It could be the case that the price elasticity of the high priced new product and the price elasticity of the low priced new product, they could differ. They could be the same. Again, that would depend on what the existing elasticities of those people were already, and all we know right now is what the average of the existing customers is.

Again, it's an empirical question because you've got to wait and look at the data and see what it tells you.

Q That helps me understand considerably what's going on.

One further question about this sort of on this line. Would you turn to your response to Valpak-T-7-1?

In Part (B)(2) you were asked whether your after rates volume forecasts for ECR includes ECR automation letters, and the reason for the question is that the Postal Service has proposed not to allow automation ECR letters.

You said no, the enhanced carrier route

volumes do not include those letters that are no longer eligible. Where do they go?

A They end up in standard regular automation five digit.

Q They end up in standard regular automation five digit?

A Yes.

Q Now, the elasticity for ECR is not the same as the elasticity for standard regular, is it?

A Correct.

Q In fact, generally it has been the case that the elasticity, the own-price elasticity, for ECR is much more elastic?

A Yes.

Q So that the content, the character of the user, doesn't change, but the elasticity does?

A Actually in this specific case, in this rate case, the elasticity doesn't actually change.

I actually, as I said before, make forecasts at the category level so in my spreadsheet I have a column for ECR basic letters. I have a column for ECR basic non-letters. I have a column for ECR automation letters.

In that column I have a measure of price, a price for ECR automation letters. The after rates

price for ECR automation letters in that case is the proposed price for standard regular automation five digit letters, again under the assumption that's what these people would pay because they wouldn't have the option of paying the ECR automation.

I apply the ECR elasticity to those, and I get a forecast of that. I then just physically move that column from my standard ECR into my set of regular numbers so that in this particular case the effect of the price on those mailers is reflected in the ECR own-price elasticity.

Q That is very helpful. Now let me ask one further question. Let's go to standard parcels for a moment.

As you said earlier, there are some standard parcels rattling around in there and paying prices that are somewhat different than flats or letters and flats. Your elasticity estimates for parcel select on price elasticity are higher or lower than they are for standard regular? More price sensitive, the parcels?

A Parcel select. You're talking like parcel post?

Q Yes, basically.

A Yes, parcel post is I think more price sensitive. It's more price sensitive than the

standard regular.

Q Okay. In developing the volumes for standard regular parcels you used the standard regular own-price?

A Yes.

Q Okay. Let's go back for a moment if we can to GCA-T-8. There's one last line that I need to pursue with you.

In that first paragraph where you're talking about a good is more likely to be own-price elastic the more available and the closer are substitutes for the product, then you say the number and availability of substitutes will lead to an increase in the own-price elasticity of the particular good.

Now, there you've used the word good, not product. Did you mean good in that situation? Good as for example a category, as opposed to the product as a subclass?

A Well, I'm speaking generally. I'm speaking kind of generally theoretically here, so in that sense, yes. It refers to the good.

I mean, the own-price elasticities that I use are essentially average price elasticities of all consumers. The theoretical discussion here is sort of more applicable to the individual mailer, kind of the

individual mailer.

Q Okay. Good. Now, in the development of the own-price elasticity -- maybe an easier way to do this is could you turn to pages 98 and 99 of your testimony, please? You're talking about here the relationship between the internet and direct mail advertising.

Now, obviously elasticity is affected by a substitute only if it's a close substitute. Is that generally the case?

A The closer the substitute the more likely you'll see an effect of an elasticity. That's just a general rule, yes.

Q There is a variability in the standard mail regular equation to reflect certain kinds of internet activity. Is that correct?

A No. The standard regular equation does not include any internet variables. The internet advertising variable here on page 98 and 99 is only in the enhanced carrier route equation.

Q That's interesting. Why was that?

A Empirically the variable didn't work in the standard regular equation.

Q Meaning what that it didn't work?

A Meaning that there was no statistical

relationship between internet advertising and standard regular volume when we put it in the equation, you know, controlling for everything else. It was already in the equation.

Q Were there other uses of the internet? I'm curious to explore whether you used those, but I suspect the answer is no.

Let me frame it again. You had no knowledge, no information, about the content of either standard parcels or standard hybrid parcels or standard hybrid flats?

A In general, no.

Q Well, indulge me in the assumption that some parts of at least one and perhaps both of those subcategories are CDs, audio, or DVDs. They have alternative means of electronic distribution, don't they?

A Yes.

Q But that's not reflected in your analysis at all?

A That's not reflected in my standard regular analysis, no.

Q So to the extent that those pieces are being sent at enhanced carrier route rates they might be?

A I mean, the enhanced carrier route equation

has an internet variable, and the standard regular equation does not have an internet variable. Again, the reason for that is just the empirical standard regular volume has not declined in the face of increasing internet advertising.

To go back to a conversation we were having earlier, hybrid parcel and standard parcels are a relatively small proportion of standard regular, and it's hard as a result when you're looking at total standard regular to isolate these small impacts on small categories of mail.

Q That helps. One last question on this line. I finally got to my own interrogatories. Could you turn to PostCom-14?

You said you made no exploratory analysis of any other parcel carrier. The question asked whether you had done any exploratory analyses of the possible effect of the FedEx, UPS, DHL and so forth on the variables in standard regular, and you said:

"I have made no exploratory analyses of any other parcel carrier beyond the cursory examination of their volumes presented within the body of my testimony."

Do I take that to mean that there is no explicit variables for alternative delivery in

standard regular?

A Correct.

Q Is there a variable for alternative delivery in enhanced carrier route?

A No.

MR. VOLNER: Mr. Chairman, that concludes my questions. Thank you very much.

Thank you, Mr. Witness.

CHAIRMAN OMAS: Thank you, Mr. Volner.

Next is Greeting Card Association, Mr. Horwood. Would you please introduce yourself and your organization for the record, please?

MR. HORWOOD: Yes. I'm James Horwood representing the Greeting Card Association.

CROSS-EXAMINATION

BY MR. HORWOOD:

Q Good morning, Mr. Thress.

A Good morning.

CHAIRMAN OMAS: Could you speak up a little louder please, Mr. Horwood?

BY MR. HORWOOD:

Q I'm James Horwood representing the Greeting Card Association. Good morning, Mr. Thress.

A Good morning.

Q Mr. Thress, is it appropriate for economic

purposes to consider a payments market as a competing market for goods and service for payments in the United States?

A Yes.

Q I'd like to turn you to pages 47 and 48 of your testimony. The tables there do reflect the payments market. Is that right?

A Yes.

Q Does your testimony address whether mail has market power in the payments market?

A I don't understand the question.

Q Okay. As an economist do you understand what market power is?

A Yes. I mean, my testimony, my analysis, focuses on first class single piece letters and first class workshare letters at that level of detail because that's the level of detail which I'm interested in forecasting.

While I discussed the payments market to the extent that it's important to understand the payments market because that's clearly one the markets in which mail exists, I'm not explicitly modeling the payments market. I'm explicitly modeling the demand for first class mail.

Q Would it be possible to model the market for

payments?

A In theory perhaps if one had sufficient data on payments and payments by type if one were interested in that.

Q On Table 9 on page 48 the source you use is the Household Diaries study. Is that right?

A Yes.

Q And that study only considers household payments. Is that right?

A Correct.

Q So that would not be business-to-business payments?

A Correct.

Q Does the Household Diaries study consider debit card transactions?

A I honestly don't know. I assume debit card transactions are combined with credit card transactions, but I honestly do not know.

Q Okay. If we assume hypothetically that debit card transactions were not included within credit card transactions would the numbers in Table 9 be understated in terms of number of electronic transactions?

A I guess.

Q And overstated in terms of mail payments?

Is that right?

A Strictly in terms of percentages, yes. If there's something missing and it's properly electronic, then yes, the electronic number should be presumably a little higher and the mail number presumably should be a little lower.

Q And debit card transactions are electronic transactions? Is that right?

A Debit card transactions are electronic, but, as I said, I don't know that they are excluded from this.

Q The Household Diaries study does show a substantial erosion of mail's share of the market in the household bill payment market during the period you looked at. Is that right?

A Yes.

Q Given such a decline in market share over that 10-year period, does that indicate to you as an economist that mail's market power in the household bill payment market is declining?

A Yes.

Q On page 47 in Table 6 you show the annual numbers of non-cash payments, and your source there is Federal Reserve and Dove Consulting.

That source is not just household payments.

That's all payments. Is that right?

A That's my understanding, yes.

Q Debit card transactions are included within that study. Is that right?

A It appears so, yes.

Q Yes. There's a separate line item for them. That's a growing share of the total non-cash payments. Is that right?

A Yes.

Q You have a line there that shows All Electronic. Which of the categories above that are included in coming up with All Electronic?

A I believe it's the sum of ACH Debit and EDT.

Q It does not include credit card transactions?

A Looking at the numbers, it does not appear to include credit card transactions. Correct.

Q Are credit card transactions electronic transactions?

A In some sense. I mean, I suppose it depends on your definition of electronic. Credit card transactions presumably would be electronic at the point of purchase.

The distinction there would be that a credit card bill is ultimately paid, so the credit card

transaction could still involve the use of checks, which is the relevant issue being looked at here.

Q For purposes of considering electronic diversion, are credit card transactions transactions that are going to be subject to the electronic diversion that you're looking at?

A Credit cards represent an alternative to the mail for certain payments, yes.

Q Are mail payments a subset of the payments by check?

A I presume so.

Q They presumably would be the larger share of it? Is that right?

A I assume so, yes.

Q If we consider credit card transactions to be electronic transactions, and electronic transactions account for well over half of the total non-cash payments. Is that right?

A Yes.

Q And is that a trend that's increasing?

A It appears to be, yes.

Q Would you expect the percentage of electronic transactions as a total to be higher in the future?

A Probably.

Q Would the fact that the payments by mail as reflected here or can be extrapolated from here are well under half of the total suggest that mail does not have market power in the payment category?

A Not necessarily. Again, it's hard to say exactly how mail payments fit into Table 6 since they're some subset of checks, but while it's true that checks are less than half of the total non-cash payments, checks are the largest component of non-cash payments.

Again, we're turning to Table 9. Even in 2005 more than 65 percent of all household bills were paid by mail, so mail is still a significant and probably the most significant means of paying bills in this country. Despite the fact that its share has declined, it retains a significant market presence.

Q If we assume that debit card payments are not included in the Household Diaries study then the share of payments by mail would be less than reflected here, is that right, on Table 9?

A If we assume that debit cards are not included, which I again am not necessarily willing to concede as a valid assumption.

Even so, I can't imagine that debit card payments would push the percentage of the share of

household bills paid by mail below -- I would be surprised if it pushed it as low as 60 percent, and certainly it would still be well above 50 percent.

Q Although Table 6 indicates that debit card payments at least in 2003 were what, about 20 percent of the total non-cash payments?

A Right, but not all debit card payments, and the same is true of credit cards. Not all debit card and credit payments are bill payments.

You know, if I go to the store and I buy a sweater I'm not paying a bill per se in any meaningful way that ever would have been paid by the mail. I don't have the choice of paying for that by mail.

I mean, while it's true that credit cards and debit cards can be used as substitutes for specific bills -- I can pay for my newspaper by credit card. I can pay recurring bills. I think I can pay my phone bill by credit card, that sort of thing. That's a relatively small set of total credit card and debt card transactions.

Most credit card and debit card transactions are not of the same nature of what would properly be viewed as the payments market to the extent that we're interested in looking at the payments market in which mail is a player.

Q Do you know whether debit cards are being increasingly used in place of store charge accounts?

A I have no idea.

Q Now, would you agree that first class mail competes with other competing substitutes in the payments market in the United States?

A Yes.

Q In what terms do they compete?

A I mean, you know, for any particular payment there are alternative methods of making that payment. Depending on the specific payment, those specific alternatives will differ, and they'll differ in regards to price, in regards to timing, in regards to speed, reliability, any number of factors.

Q Price then is one of the factors in which they compete?

A Price may be a factor in which they compete.

Q Staying with price competition, are you aware of a proposed rule by the Securities and Exchange Commission that would propose a change in rules to permit the issuers of securities to post proxy materials on the internet rather than mailing them to shareholders?

A I was not specifically aware of that.

Q To the extent that there were going to be

such a shift that would affect the volume of first class mail? Is that right?

A Yes.

MR. KOETTING: Could I get a clarification? When you say first class mail there are you including Priority Mail as a subclass of first class mail, or were you referring specifically to the letter subclass of first class mail?

MR. HORWOOD: I guess all of first class.

MR. KOETTING: Thank you.

BY MR. HORWOOD:

Q Mr. Thress, how does an internet user variable account for the behavior of a regulatory change such as that that would be proposed in the hypothetical I gave you?

A The internet variables as I include them in the first class equation reflect a growing use of the internet as an alternative to first class mail. The SEC proxy rule example that you give would be an example of an increased use of the mail.

An increasing use of on-line bill payment would be an example of this increased use of the mail. The encouragement by the IRS of electronic filing would be an example of the increased use of the mail.

All of these things would be reflective

within the single variable because it's simply not practical to isolate very specific cases such as this SEC rule change and try to identify each specific example of electronic diversion and try to quantify each specific case of electronic diversion and simply sum them up.

That's simply not practicable because the internet is becoming so ubiquitous that it affects first class mail in many different ways, in many different levels, and that's what this variable is trying to measure.

Q In your projection and in your variable you're kind of taking kind of the past as being the prologue for the future. Isn't that right?

A Yes.

Q So if there were a significant change that affected the volume of mail then that wouldn't be captured by just projecting from the past unless there were other offsets, assuming no other offsets ceteris paribus?

A Well, again assuming you're talking about this proxy rule of the SEC, this would be a parallel to past things such as the direct deposit of social security checks, direct deposit of IRS refunds, electronic filing of tax returns, electronic bills and

statements, all sorts of things which have been growing in importance, growing in quantity. This SEC rule would simply be another example of this.

Q But your study in effect assumes that this would have about the same percentage effect as these other changes in the past have had? Is that right?

A My model assumes that the level of diversion of first class mail will continue at approximately the same rate as it has recently.

Q I'd like to refer you to your response to GCA Interrogatory 4.

In your response to Question (A) you talk in terms of your personal situation in which you indicate that because you already had a computer and internet access your marginal cost of moving to on-line bill payment was effectively zero. Is that right?

A Yes.

Q This in other words means that zero margin cost/zero price?

A Yes.

Q Wouldn't zero cost/zero price be price competition? Isn't that the most aggressive price competition you could have?

A I mean, yes, in that sense it would be true to say that they are competing in terms of price.

Q When you talk about zero cost, in order to engage in on-line banking you had to incur the fixed cost of buying the computer. Is that right?

A Yes.

Q And you have to pay a monthly fee to have internet access? Is that right?

A Yes.

Q So it's not cost free, but it's marginally cost free?

A It's marginally cost free. As I said, I already owned a computer. I already was paying for internet access for other reasons so from that perspective the marginal cost is zero.

No, the cost of on-line bill paying is non-zero, and to the extent that on-line bill paying is maybe what induces someone to get the internet there may in fact be some non-zero cost reflected in their choice of such a thing.

Q Do you recall that at one time banks initially charged for on-line banking and then eliminated those fees?

A Yes.

Q Is it fair to say that your model has no inputs that measure price competition between first class mail and electronic substitutes?

A No, that's not fair.

Q How are they captured?

A Again, the internet variables which I include in my first class equations reflect the increasing use of the internet for these transactions.

To the extent that's the reason why people are choosing to use the internet for these transactions is because of declining prices of these things, then the impact of those prices on first class mail will be reflected in the coefficients on those variables.

Q But again you're assuming behavior that's inconsistent with what it's been in the past. Is that right?

A Yes. Everything I do, the entire foundation of my testimony, in all respects is that the past is the best predictor of the future. That's what you do in econometrics.

Q If there are known changes, K-N-O-W-N, would those be reflected so that you would adjust the history to reflect the known changes going forward?

A Purely theoretically, yes. If I had reason to believe some historical factor was going to change in some identifiable, quantifiable way in the future then yes, I would adjust the forecast to reflect such

a thing.

Q In your projection, what rate did you assume for first class letter mail?

A The before rates price was 39 cents, and the after rates price was 42 cents, you know, plus all the various addition allowance and the letter and parcel rates and all that stuff.

Q If we assume hypothetically that the first class letter rate were going to be 50 cents instead of 42 cents, would that be captured in your projection?

A I mean, I would make a new -- you know, you could plug in a 50 cent price instead of 42 cents in the price and make a new forecast.

Yes, I think that would be the best forecast of what first class volume would be if there were 50 cent stamps.

Q Because the fact you'd have a rate increase instead of three cents of 12 cents wouldn't affect the way in which you would project your model? Is that right?

A If I understand your question, no, it would not affect the way I project the model aside from the obvious that I would project the volume as a function of the different price.

Q Yes. Let's assume instead of 50 cents we're

talking about a first class letter rate of 75 cents. Would you change your model?

A I mean, there becomes a point where a proposed price change could be so large as to call into question the believability of history.

I mean, again going back to what I said earlier, I'm projecting on history. Technically econometric estimates are most valid over the range, you know, within the range of the data over which the elasticities are estimated.

I don't believe there's ever been a case where the single piece first class stamp price doubled, so I can't say for certain what the impact of doubling the first class stamp price would be.

Again, that would be a significant enough change so that would be something that we would want to take a special look at and perhaps try and do some market research or try and figure out something.

You know, that's so far beyond the realm of what was realistically considered by the Postal Service and what I presume is going to be realistically considered by the PRC that I wouldn't know how to begin to answer that question.

Q You haven't or, to your knowledge, has the Postal Service considered whether market research

would indicate that a three cent increase in the first class rates would change behavior?

A I'm not aware of any market research, but again three cent rate changes have happened before and they'll happen again. That's within the realm of what we've seen historically so I have more confidence in my model's ability to predict the impact of a three cent rate change.

Q Over what period of time would you have that level of confidence? Over what period of time going forward?

A Forever.

Q Okay. Well, there is something called a forever stamp, but that's a different issue.

You worked closely with Mr. Bernstein. Is that right?

A Yes.

Q If I could ask you if you have a copy to refer to page 8 of his testimony? Page 18.

A I don't, but I assume someone can hand it to me.

MR. HORWOOD: If counsel could provide it? I'm not going to be cross-examining on it. I want to use it as a point of reference.

MR. KOETTING: Page 8 was that?

MR. HORWOOD: Page 18. I'm sorry.

BY MR. HORWOOD:

Q Table 4 shows sources of electronic diversion by type of first class mail and possible sources of electronic diversion. Do you see that?

A Yes.

Q Among the examples that are cited are health records, architectural plans, invitations, photographs, .pdf attachments. Do you see that?

A Yes.

Q Are these examples types of materials and communications that are going to be subject to electronic diversion?

A Yes.

Q These aren't included within the payments market that we were discussing earlier. Is that correct.

A Correct.

Q So in addition to bills, bill payments, statements, there is a large universe of other types of communications that are going to be subject to electronic diversion?

A Yes.

Q And that's with respect to first class mail?

A Yes.

Q And the kinds of items we've just been discussing are typically sent by first class mail? Is that right?

A To be honest, I don't necessarily know how architectural plans or health records are typically sent.

Q Would you agree that there is a price competition between these non-payment first class mail and electronic substitutes?

A I assume that price is one of the factors that determines how these things are sent, yes.

Q That's all I have on that page.

Please refer to your response to GCA Interrogatory 8. In the introductory section of the response you say, don't you, that you would expect the prices of single piece first class letter mail and electronic alternatives to that mail to be uncorrelated?

A Yes.

Q Let's consider a firm that is faced with emerging competitive substitutes for its product where the substitute would be priced lower than the incumbent's product.

Would you expect the incumbent firm to at least consider competing on price with the emerging

substitute?

A I assume the incumbent firm would at least consider that, yes, to the extent that it were possible.

Q If the incumbent firm did decide to try competing on price, would the prices of the incumbent product and the substitute product be correlated?

A Probably.

Q Do you think it's likely that single piece first class letter mail is migrating to electronic substitutes to some extent because of the relative prices of these two different media?

A I think it's true that this migration is because of the relative prices, but what's driving the change in the relative prices is that the price of electronic alternatives is declining so that it's the price of the electronic alternative that is driving the substitution much more so, in my opinion, than the price of first class single piece letter stamps, which essentially in the long run are unchanged relative to inflation.

Q If we assume that there was a price elasticity approaching one or greater than one, should the Postal Service consider a price reduction to maintain volume and maintain revenues?

A Mathematically if a product has a price elasticity greater than one and you lower the price then that will increase gross revenue. First class mail is not an example of such a product.

Q Do you know whether there are subcategories of first class mail that would be subject to such an elasticity?

A No.

Q Are you familiar with the Postal Service's negotiated sales agreements?

A I'm aware of their existence.

Q What is your understanding of what they are?

A My understanding of negotiated service agreements are that the Postal Service offers discounts to specific mailers for specific purposes.

Q Would you say that the Postal Service's offering of those kinds of discounts is an effort to take competitive steps in pricing or by pricing?

A I'm going to be honest. I'm not involved in negotiated service agreements at all, and I really couldn't speak to the Postal Service's thinking in undertaking such things.

Q Your testimony estimates the own-price elasticity for first class single piece mail and first class workshared mail separately. Is that right?

A Yes.

Q And you indicated before you don't attempt to estimate a demand elasticity of first class mail payments as a separate category. Is that right?

A Correct.

Q Is there any reason to believe that the elasticity of first class payments mail is similar to the elasticities you calculate for first class single piece mail or first class workshared mail?

A My understanding is that payments represent a significant portion of first class mail, so to that extent I'm fairly confident that the own-price elasticities of that type of mail are at least largely similar to my estimates for first class mail as a whole.

Q What is your basis for that confidence?

A Well, again my understanding is that, for example, first class single piece mail -- I believe that the majority of first class single piece mail represents payments, bill payments, so to the extent that if, you know, the own-price elasticity of bill payments were significantly greater or significantly less I think that would be reflected in the aggregate price elasticity I'm estimating for first class single piece as a whole.

Q Are you talking there about the household market, or does that include business-to-business transactions also?

A I have less information on business-to-business transactions because, as you said earlier, the Household Diaries study doesn't reflect those so I was thinking primarily of household.

Again, I think household makes up a fairly large proportion of first class single piece mail. I don't have the numbers in front of me. I've seen numbers. Like I say, I thought bill payment was the most significant chunk of single piece first class.

Q Would you agree with the characterization that in recent time periods multi-year decreases in first class mail volume is unique as compared with what happened in the past?

A First class mail volume has been declining much more over the past three to five years than it has historically, yes.

Q And in recent years the volume of standard mail has exceeded first class mail volume. Is that right?

A Yes.

Q And is that unusual compared to the past?

A Standard mail volume historically has grown

faster than first class mail volume, although I believe the difference is growing.

Q Have you given any consideration in your study to the drivers and economic factors that cause diversion? And by diversion I mean electronic diversion.

A Right. Yes.

Q What are the factors that you considered?

A Primarily the factors that are driving electronic diversion are the increasing penetration of the internet and technological advances which make diversion more possible, more economical, more economically advantageous from the point of view from the people developing the technology.

Q Those aren't all the factors, but those are the principal ones?

A Those strike me as the principal ones.

Q I would like to refer you to your interrogatory response to ABA/NAPM, referring to your Response 1.

Econometric models yield numerical results. Is that right?

A Yes.

Q And that's one of the core benefits of econometric models is it gives you an objective

numeric output that essentially speaks for itself? Is that right?

A Yes.

Q An elasticity value of negative 0.130 would indicate a lower elasticity than an elasticity of negative 0.329. Is that right?

A Yes.

Q Your model in 2005-1 estimated an own-elasticity of demand for first class workshared mail of a negative 0.329. Is that right?

A Yes.

Q And in this case your estimated own-elasticity of demand for first class workshared is a negative 0.130. Is that right?

A Yes.

Q The results of your model in this case indicate, doesn't it, then that the demand for first class workshared mail in I guess less than one year has become substantially more inelastic than it was the previous year? Is that right?

A No.

Q Isn't that what the numbers show?

A No. The numbers show that my estimate has declined from minus .329 to minus .130, but my current estimate is that the own-price elasticity of first

class workshare letters is now minus .130 and was a year ago minus .130.

Q So you're saying that your previous model was flawed? Is that right?

A Yes. I'm saying my previous estimate was less accurate based on new information and a reevaluation of the existing information. I have revised my estimate, yes.

Q What is the new information that led you to that conclusion?

A The new information which led me to that conclusion was in part the existence of three additional quarters of data and was also a reevaluation of what happened to workshare letters volume beginning in 2002 quarter four and into 2003 and 2004.

In particular, upon reexamination that seems to have been a case of increasing electronic diversion as opposed to whereas the previous model attributed some of that loss in volume to a rate change that took place in June on June 30, 2002.

Q Are you finished?

A Yes.

Q Does that indicate then that the past was not a good predictor of the future with respect to

that subclass of mail for that period of time?

A For that period of time. For that period of time, yes.

Electronic diversion was a new and emerging factor which affected first class workshare letter volumes beginning at the end of 2002 and into 2003 and 2004 in a way which had not been previously seen prior to that. Yes.

Q Are there factors of which you're aware that are going to affect the amount of electronic diversion going forward in a different way than the past?

A Not that I'm aware of.

Q Would a major technological change that allowed much more robust broadband availability than the past be the kind of factor that would affect whether or not the past is a good predictor of the future?

A It could be. I mean, it's hard to think of specific examples of the types of things that could lead to unexpected changes because presumably if I could think of them I might be better able to expect them.

Q Are you aware of anticipated changes in the availability of broadband throughout the United States?

A Yes.

Q Do you believe that those changes would be significant?

A I think in general my understanding of increasing speed of broadband, increasing availability of broadband, those are changes that are along the lines of what we've seen before, a continuation of the general trend we've seen historically toward electronic diversion.

I personally don't foresee that sort of thing leading to some kind of dramatic shift in the extent of electronic diversion in the same way that we saw again in the summer of 2002 there seemed to be a more discreet shift in the extent to which electronic diversion, which we kind of always knew was a threat. That's sort of when it first started showing up in the numbers in workshare letters.

The sort of things you're talking about, my understanding is that's just going to lead us to continue to see the sort of trend that we've seen historically and that I am predicting in the future. We're going to see ever increasing electronic diversion.

Q Are you aware that some places are considering offering free Wi-Fi service to everybody

within a city?

A Yes.

Q Would you expect that to have a change in availability of broadband in a significant way?

A Again, ultimately it's simply a continuation of the existing trend. The existing trend is towards more internet access, toward higher speed internet access. You know, this is one example of the continuation of that trend.

Q In order to estimate electronic diversion you have included both an internet variable and a broadband variable in your model. Is that right?

A The single piece letters equation includes an internet variability, and the workshare letters equation includes a measure of the number of broadband households. Yes.

Q What was your basis for using these particular variables?

A Econometric experimentation with a number of variables, and they tended to work best. They tended to best explain the historical changes in volumes that we've seen.

Q You didn't consider a variety of behavioral and competitive factors and say to yourself that one or the other is the best predictor of electronic

diversion of single class first class mail as a proxy for the number of internet users and therefore I'm going to use that in my model?

A Can you say that again?

Q You didn't consider a variety of behavioral and competitive factors and say to yourself the best predictor of electronic diversion of single piece first class mail is a proxy figure for the number of internet users and that's what I'm going to use in my model?

A Again, I tried a variety of variables which either measure or reflect electronic diversion. My R2005-1 testimony, USPS-T-7 in that case, discussed this in great detail.

I tried several measures of the internet at large. The ISP variable that I ultimately used, I looked at time spent on the internet, I looked at the number of broadband households. I also looked at some specific measures of diversion.

I looked at NATCHA transactions. I looked at electronic bill payment data from the Household Diaries study. I tried all these various variables and concluded that the variables which I ultimately ended up including in my equations did the best job of explaining historical impacts of electronic diversion

on first class mail.

Q About how many different specific demand equations did you run before selecting that one?

A Twenty or 30.

Q In your Library Reference L-65, which is Demand Analysis Econometrics Choice Trail, you state, and I'm referring to page 128. I don't know if you have to get it in front of you.

You state, "Possible explanatory variables are investigated as candidates for inclusion in specific demand equations." Is that the 20 or 30 variables that you looked at?

A The equations that are presented here in Library Reference L-65 are a set of equations that I looked at in this case.

Like I said, before R2005 I actually did a fairly more comprehensive analysis of alternate internet variables whereas the equations presented in L-65 in this case were more focused on alternate specifications of the variables within the equation.

My answer of 20 to 30 to your first question was referring to before R2005. Before this case I think there were like 23 equations or something that I present here.

You know, trying to model electronic

diversion econometrically is an ongoing process precisely because of the facts that we've been discussing; that it's difficult to anticipate, it's difficult to completely understand the past because electronic diversion is such a diffuse process that it can affect different subsets of mail in very different ways and so it's a process that we have to constantly reevaluate and make sure that we're making the best possible estimates of.

Q You say on page 128, and I think this is also in your testimony and answers to interrogatories, that the principal regression diagnostic that you considered choosing among the candidate equations was the mean-squared error. Is that right?

A Yes.

Q Is there a widespread acceptance in the field of econometrics that the degree of mean-square error is the principal diagnostic device that should be used to choose among competing econometric equations?

A I think so.

Q Do you know or can you indicate what authorities in the field would state that the degree of mean-square error is the principal diagnostic device that should be used?

A I don't have anybody off the top of my head. Mean-squared error is what we've been using in Postal work as long as I've been doing Postal work, which is 14 years now, and it's what I do in my work and it's what my colleagues tend to do in their work.

I'm not aware of a lot of written authority on the empirical evaluation of equations, to be honest. Most of the written work deals with the theoreticals, the underlying mathematics.

I mean, mean-squared error is sort of the most -- in my mind it's the simplest choice, as I explain in my responses to one of your questions. The goal, the basic goal of most econometrics and in particular the generalized lead squares that I do, is to minimize the sum of square residuals or to minimize the variance essentially of the model.

The mean-squared error measures the variance of the model so to that extent it's the most straightforward diagnostic. It tells you, you know, precisely if your model is doing what it's supposed to be doing.

Q Can you indicate when the last time was that you surveyed literature concerning the issue of methodological approach for choosing between and among econometric models?

A As I said, I'm not aware that there's very much literature at all on that particular subject, and it probably has been several years since I've looked for it.

Q Are you familiar with Cox's work and the work building on Cox as appropriate ways to test families of hypotheses?

A Yes.

Q Do you know whether Cox's work suggests use of mean-square error?

A To be honest, I don't recall.

Q Did you use any other test besides mean-square test to evaluate whether mean-square was an appropriate methodology to employ?

A I don't understand your question.

Q Do you know what a J-test is?

A I've heard of it, but I don't know what it is off the top of my head, no.

Q You know what an R-squared analysis is?

A I know R-squared, yes.

Q And you did make a check on R-squared? Is that right?

A I present R-squareds in my work, yes.

Q But you don't rely on R-squared? Is that right?

A In general, no.

Q Why not?

A As I explained in my response to one of your interrogatories, I find that in time series work particularly in the case of variables which have obvious and persistent trends in them, which is true of many cases of mail, R-squareds tend to be misleadingly high in a way which simply reflects that the equation exhibits a great deal of variance, most of which can be explained by the inclusion of simple trends and seasonals.

You know, the example I gave in the interrogatory response was the case of mailgrams, which is an equation which is a terribly poor equation. The mailgrams volume is highly erratic, but has also exhibited a long-term negative trend to the point where it's now literally zero.

We see an R-squared in the mailgrams equation of .96, which at cursory glance suggests that we have a fairly good fit on mailgrams, and in point of fact we don't. The average error term in the mailgrams equation is well over 20 percent in absolute value. It's just that we explain the trend portion.

Again, as I said, the goal here from my perspective is not to maximize the explained

variation. It's to minimize the unexplained variation. In that sense, mean-squared error measures what we're trying to optimize in a way that R-squared doesn't.

Q Are you familiar with out-of-sampling tests as used to test and select between and among econometric models?

A Yes.

Q What is an out-of-sampling test?

A An out-of-sampling test would involve estimating your equation over a shorter sample period, going out of the equation sample, but within the period where you still have historical data and measure forecast errors there and essentially choose the model in such a way as to minimize your forecast error, your out-of-sample forecast error.

Q Is the use of out-of-sampling tests well-recognized in the econometric field as a method for testing an econometric model and selecting between and among models?

A In general, yes.

Q You didn't employ an out-of-sampling test?

A I did not employ an out-of-sample test, no.

Q What is a standard T-test?

A A standard T-test measures the significance

of how significantly different an estimated coefficient is from zero, essentially the significance of the coefficients, the variables you've included in your equation.

Q Some of the equations that you evaluated, but did not select, had better T-values than the equation you did select. Is that right?

A In some cases, yes.

Q Assume hypothetically that you've been hired by a manufacturing company for example General Motors to address issues concerning the elasticity of demand for its products. Would you use the same kind of econometric methodology used in this proceeding to make your evaluation?

A Generally. I mean, it would depend on the data they had available, it would depend on an understanding of the specifics of their market, the specifics of who their competitors are, what data is available on their competitors, but in terms of the underlying econometrics, in terms of the sort of things we're talking about as far as how I would choose Model A versus Model B, yes, I would do the same sort of stuff.

Q Would you look at a more short run time period than you used here?

A That depends on the data available. Partly it depends on what your question is and partly it depends on how much data is available. You can't look at a longer time period than you have data for obviously.

If your focus is on forecasting then there becomes a trade off of the further back in time you go you get more data which gives you more information, which gives you more reliable estimates, but the further back in time you go you get data that may be less applicable to the way the world is today, so there's that trade off and I employ that trade off in my work here.

You can see that for different categories of mail that trade off manifests itself differently. In the case of first-class single piece letters I used data back to 1983 to estimate my equation even though I had historical data going back to at least 1970.

In the case of work shared letters I only used data going back to 1991 to estimate my equation because prior to that work shared volume was growing dramatically for reasons that are less relevant to forecasting work shared letter volume for the next three to five years.

So you start by looking at all the data you

have available and then you start looking at how useful it is and if the old data turns out to not be useful you drop it and if it turns out to be helpful in getting you more reliable estimates then you keep it.

Q Under that hypothetical would you be more likely to consider price as a factor than you have in your analysis here?

A Well, in your specific hypothetical of General Motors I would assume that General Motors competes more directly and more clearly on price with Ford, Chrysler, Toyota, Honda than the Postal Service does because those are more perfect substitutes.

GM cars and Ford cars while not perfect substitutes are two very similar versions of the same thing in a way that paying your bill electronically, and writing a check and putting it in the mail while they accomplish the same thing they have differences that argue against simply looking at price and saying price is the end all, be all comparison.

There are cases of mail where you do see a much more direct price relationship between UPS, and Fed Ex, and Priority Mail and parcel post. Those are cases where, again, it's the same product in a way that first-class mail and the alternatives to first-

class mail aren't exactly the same thing, they simply accomplish the same goal, so in that sense, yes. I can't imagine that you could estimate a demand for GM cars that didn't somehow reflect the price of Ford cars.

Q Are you saying then that as far as electronic diversion is concerned with respect to first-class mail that price is not a factor? That there's nothing that the Postal Service --

A What I'm saying is I'm saying that if the Postal Service charges 39 cents or the Postal Service charges 42 cents or the Postal Service charges 45 cents, electronic diversion is going to continue along the path that electronic diversion has continued along and that going back in time if the Postal Service had maintained the 15 cent stamp from then until now we would see more volume because price would be lower and that would be reflected in a price elasticity, but we would still see electronic diversion and by and large we would see electronic diversion of the same approximate magnitude.

Q Would that be for all types of first-class mail or for just some types of first-class mail?

A I mean, I think electronic diversion affects different types of mail differently, and I think that

would be true, again, regardless of price.

MR. HORWOOD: Thank you, Mr. Thress. I have no further questions.

CHAIRMAN OMAS: Thank you. I think before we start with Mr. Olson and Valpak I think we'll take a mid-morning break for let's say 10 minutes.

(Whereupon, a short recess was taken.)

CHAIRMAN OMAS: Mr. Olson, would you please introduce yourself and who you represent, and you may begin.

MR. OLSON: Thank you, sir. William Olson, representing Valpak Direct Marketing Systems, Inc., and Valpak Dealers Association.

CROSS-EXAMINATION

BY MR. OLSON:

Q Hello, Mr. Thress. I want to start by directing your attention to our Interrogatory No. 1 where we asked you about your Table No. 1 which has the summary of all the elasticities and there you clarified for us in your response that your numbers included the shift of ECR automation letters from ECR to standard regular in accordance with the Postal Service's proposal, correct?

A Yes.

Q Okay. I have a similar question for your

Attachment A, which is pages 402 through the end I guess, and there you have different volume forecasts, 2006 through 2009. Would it be safe to assume that in all of the years, 2006 to 2009, that it's based on the assumption that the rates are changing or is 2006 different? I'm sorry. That this mail classification change had gone into affect?

A Well, Attachment A shows both before rates and after rates, so the before rates numbers do not reflect the classification change we're talking about. So in the case of the before rates numbers there's a line for standard enhanced carrier route automated and it has volumes going through.

On the after rates portion beginning when new rates are assumed to take affect, which is May 6, 2007, if I remember correctly and if I remember incorrectly I'm sorry and I'm sure I got it right in the actual forecast, that's the point at which ECR automation shifts and their after rate is included with ECR automation or standard regular five digit.

So if you turn to page 410 for example, which is 2007 after rates --

Q Excuse me. If you could pull the mic just a bit closer it will help me hear you a little better.

A I'm sorry. If you could turn to page 410 of

Attachment A, it's page 9 of Attachment A, and you could look at the standard mail enhanced carrier route automated, the last line on the page, you can see that for Quarter 1 and 2 the numbers are the same as they were before rates, for Quarter 3 it's a very small number and for Quarter 4 it's literally zero.

That's because that mail has been moved up to the line for automated five digit letters where you can see that the after rates volumes are actually slightly higher than the before rates volumes, again, because that's including this new volume --

Q Thank you. It is very clear now that you pointed out. My father always said everything is easy once you know how to do it. That year, 2007 after rates, that would be October 2006 through September 2007?

A Yes.

Q And you're assuming a rate increase like perhaps exactly one year after the filing? Is that the date that you predicated your assumption on? May 7, was that the day you said?

A I think it's May 6.

Q I think the case was filed on May 6, 2006.

A Okay. It may be. It's definitely May. It's some point in 2000 which puts it in 2007 Quarter

3. I assume I have the date written somewhere in my testimony, but it's 400 pages.

Q I didn't see it, but that doesn't mean that it wasn't there. I'm just learning. Is there some reason by the way on Attachment A the first page, 402, that you don't say before rates on that or would that not be suitable?

A The only reason I don't specify is because I don't also show an after rates for 2006 because 2006 is the same, so I only show it once. So it's both before and after rates. I mean, that's why it's labeled that way. It may have been more appropriate to label it as before rates. You may be right.

MR. KOETTING: Just so the record is clear the implementation date assumption is stated on page 7 of the testimony.

MR. OLSON: Good. Thank you.

MR. KOETTING: And it is May 6, 2007.

MR. OLSON: I knew you would know where it was.

BY MR. OLSON:

Q Let me ask you to turn to your response to our Interrogatory No. 4. We're asking about standard ECR mail and you discuss at the very end of your response, which is to C-2, you talk about the negative

impact of price changes on standard or ECR mail volume that has been offset by other factors and you have two factors specifically you pull out there in reference.

One is retail sales and I think that makes logical sense. My question is why is investment significant to ECR particularly?

A The logic there is that advertising represents a form of business investment. Specifically what you see, what's true of investment and advertising and is also true of standard mail is that they are what I sometimes call hypercyclical. They tend to go up faster in good economic times than things like retail sales, GDP, income, and they tend to fall more dramatically in recessions than these other things.

Investment is by far the most cyclical component of GDP and as I said advertising shares that same kind of cyclicality, not quite as extreme as investment in some cases, but it's that extreme.

Again, there's an economic literature on advertising as a form of business investment, so that's kind of what that variable is trying to reflect in the equation is this idea that when investment changes the same kind of factors induce advertisers to re-evaluate their advertising and that carries over to

specifically ECR.

Q So the term investment has to do with business investment via advertising, not how the investment market --

A Well, I mean, the literal variable that's included in my equation is gross private domestic investment. Again, I think it's more appropriate to think of that variable as proxying in this case and reflecting the same kinds of thought process that leads to the same kinds of behavior in standard more so than thinking for every dollar invested X cents of that is invested in advertising.

I mean, I don't think it's exactly that strict a relationship.

Q Well, most ECR mail I believe is directed toward households. Wouldn't that be correct?

A Yes.

Q So you're talking about businesses engaged in advertising their goods and services to households?

A Right.

Q So in a sense investment is sort of I don't know a proxy for what's going on in the economy in terms of --

A Right. Like I said advertising in general tends to have a strong business cycle component to it

and that's essentially what this variable is trying to measure.

Q Okay. Let me ask you to look at our Interrogatory No. 2. There we ask you about the elasticity estimate for ECR in this case as well as the prior docket, correct?

A Yes.

Q The prior docket being R2005-1?

A Yes.

Q I read your testimony on this point, but I just want to see if I understand it. It said there were basically no large changes in forecasting models between R2005-1 and R2006-1. That's correct?

A In terms of standard mail, yes.

Q Okay. You had some other minor changes that you made none of which appeared to affect standard mail. Is that a fair statement?

A Yes.

Q Okay. So does your observations in the two dockets in a row for example that the ECR elasticity is within what you consider to be the range of standard error, does that give you confidence in the estimate?

A Yes.

Q Okay. Consistency always helps in such

things.

A Yes.

Q The same thing is true about standard regular which we ask about in the next interrogatory, Interrogatory No. 3, where your methodology stays the same and you found the elasticity to be about .3 --

A Yes.

Q -- in both dockets, so that gives you some confidence in the consistency of your estimate?

A Yes.

Q Okay. Let's just compare the two. If you were looking at these own price elasticity estimates of ECR in this case of being 1.079 and regular being .267 the ratio between the two, you have to multiply the standard regular ECR by about 3.4 to get to the ECR estimate if you can just accept that subject to check?

A That sounds about right. Yes.

Q Okay. Is it therefore possible to conclude that the elasticity of ECR is 3.4 times the elasticity of standard regular? You would speak in those terms? You would make that comparison?

A I think you could speak in those terms.

Q Your background is in economics. You have a Master's in economics. You consider yourself an

economist as well as an econometrician I take it?

A Yes.

Q When you have demand for a product that's highly inelastic would you expect to see a big gap between marginal cost and price?

MR. KOETTING: Mr. Chairman, I think despite the fact that the witness considers himself an economist that we're straying quite a ways from the scope of his testimony in this docket which --

MR. OLSON: Well, if demand is inelastic or elastic it has certain consequences and he's measuring elasticity. I'm not sure that's straying him at all.

BY MR. OLSON:

Q If you don't have an answer that's fine.

A Well, I was just going to say that, I mean, trying to stay as purely theoretical as possible how price compares to marginal cost is going to depend on the pricing mechanism and in the case of the Postal Service because they're a regulated monopoly with break even constraint that's going to lead to --

Q I'm not even asking about the Postal Service. In general. As a general principle. A competitive market let's say without the consideration of being some type of limited monopoly offering a good. Can you make an observation there? Sounds like

I asked a more difficult question than --

A I mean, in a competitive market in general a more price inelastic product you would charge a higher price because raising the price will generate you more revenue because it won't lead to as much volume loss.

Q Okay. In your equations where you make your estimates for elasticity of standard ECR how do you account for the availability of alternatives to the advertiser?

A Well, in the ECR equation specifically we include the price of newspaper advertising, so newspaper advertising would be a potential substitute. We include internet advertising expenditures. Again, the internet would be an alternate advertising medium. If you're asking about alternative delivery of mail pieces, of direct mail advertising, that's not explicitly included in our equation.

Q You do look at alternatives for geographically sensitive businesses such as newspapers you said?

A Right. Yes.

Q Okay. Let me ask some questions based on a cross-examination exhibit which we prepared and I sent over to Mr. Koetting two days ago. He's advised me that you have looked at that and found some problems

with some of the numbers we used and have substituted an accurate cross-examination exhibit together with sufficient copies for everyone for which we thank Postal Service counsel. Is that correct?

A Yes.

Q Okay. So I can distribute them. Again, I thank you for helping correct my estimate. Apparently I used before rates instead of after rates numbers for the automation ECR letters that we're converting and you fixed that, correct?

A Yes.

Q The first column in this chart has your own price elasticity estimates for regular of .296 and ECR of 1.079, correct?

A Yes.

Q Then I had something else in the next column which Mr. Koetting didn't want, so we're not going to worry about that. The third column is Mr. Kiefer's average revenue per piece increase for ECR and regular showing that regular goes up 1.5 percent more than ECR, correct?

A Yes. I did want to comment that I think the numbers here -- I'm not Mr. Kiefer, so they're his numbers. I think the 9.6 and the 8.1 percent numbers reflect after rates standard regular includes that ECR

automation volume that's migrating over that we're talking about and the ECR after rates does not include that whereas when we get to the volume after rates that's going to include that.

So I don't think it's 100 percent comparable to the volume numbers, although I think it's pretty close.

Q Okay. Good. Thank you for pointing that out. The next columns show the before rates, and this is all test year numbers, correct?

A Yes.

Q Fiscal 2008. You show the before rates volume of standard regular and standard ECR, and then the after rates volume estimates of regular and ECR and the difference in terms of pieces and then the percentage difference, correct?

A Yes.

Q Now, the percentage difference, 2.19 percent decrease for regular and 6.45 percent decrease for ECR, my first question -- and I'll have to admit when I used the wrong numbers it was a more staggering kind of difference -- if you take 2.19 percent and multiply it by 3.4 which is the number that you need to multiply the regular own price elasticity to get up to the ECR own price elasticity that we discussed

before --

A Right.

Q -- you get the 7.45 percent instead of 6.45 percent curiously enough which is what the number is for ECR volume decrease. Now, I want to get at what is causing that and I think part of it might be the fact that the average rate increase for regular is higher than for ECR. Would that be one reason do you think?

A That would be one reason. Yes.

Q I recall reading in your testimony about how their lagged affects of the mailers' reaction to the rate increases and if the rate increase goes into affect in May of 2007 I think at one point you say that the full affect of the volume fall off may not be present in the test year. Is that correct?

A Correct. Yes. Exactly. That would be the other reason why the exact 3.4 doesn't. Yes. It's particularly true with ECR. That 1.079 is the sum of all of the impacts, but a large portion of that doesn't show up until lagged three or four quarters, so it's all in affect by the end of the test year, but kind of at the beginning of the test year the lag affects haven't all worked their way out yet.

So, yes. So that's the other reason why.

Because ECR has a stronger lag component than regular.

Q Okay. Is there any other reason you can think of? Those are the two only reasons you think?

A I mean, those should be the two mathematical reasons. I mean, because of the way I do the forecast of I do it at the category level as opposed to at the subclass level I don't simply take the average revenue per piece increase that's shown here and apply the own price elasticity that's shown here and get the volume percentage increase number that's shown here.

So there could be something else that would amount to essentially a rounding error I would think. I think the two reasons I've given you should explain 99 percent of the difference. Yes.

Q Okay. So the full affect of the rate increase on ECR would be in affect by the latter two quarters perhaps of 2008?

A Yes. Basically.

Q Certainly all of 2009?

A Certainly all of 2009. Yes.

Q Which you show after rates --

A I do have after rates estimates shown for you.

Q Is that part of the reason you go out to 2009 and give that information?

A I think I go out to 2009 because the rules require me to.

Q Well, be a good reason to. Let me just see if I have anything else on here. You can understand why we wanted to subtract out the affect of a change in the elimination of ECR automation letters because it's true that if you include the affect of that mail classification change it overstates the loss of ECR volume and understates the loss of standard regular volume, and so in order to look at just the rate affects we wanted to remove those numbers.

A Absolutely.

Q This chart, this cross-examination exhibit, does account for that does it not?

A Yes.

MR. OLSON: With that, Mr. Chairman, we'd like to mark this as Valpak Cross-Examination Exhibit No. XE-1-Thress and ask that it be actually moved into evidence because I think all the numbers have been verified.

CHAIRMAN OMAS: Without objection. So ordered.

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(The document referred to was marked for identification as Exhibit No. VP-XE-1-Thress and was received in evidence.)

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VP-XE-1
T2. .55

**Docket No. R2006-1: Standard Mail**

| | Own-Price Elasticity | Avg. Rev/Pc Increase | Volume Before Rates | Volume After Rates | Volume Increase (Decrease) | Volume % Increase (Decrease) |
|---|---|---|---|---|---|---|
| Regular | -0.296 | 9.6% | 62,490,946 | 61,125,389 | (1,365,557) | (2.19%) |
| ECR | -1.079 | 8.1% | 33,295,868 | 31,147,673 | (2,148,195) | (6.45%) |
| Source | (1) | (3) | (4) | (5), (6) | | |

Sources:

(1) Testimony of witness Thress (USPS-T-7), pp. 114 and 122.

(3) Testimony of witness Kiefer (USPS-T-36) (revised June 21, 2006), p. 35.
(4) Testimony of witness Thress (USPS-T-7), Table 1, p. 9.
(5) Regular less for 1,800,862 ECR Automation. (See Testimony of witness Thress (USPS-T-7), Table 1, p. 9 and p. 400.)
(6) ECR plus 1,800,862 ECR Automation. (See Testimony of witness Thress (USPS-T-7), Table 1, p. 9 and p. 400.)

MR. OLSON: With that, that's all we have. I thank you, sir.

THE WITNESS: You're welcome.

CHAIRMAN OMAS: Thank you, Mr. Olson.

I think at this point Ms. Tonda Rush would like to cross-examine Witness Thress.

Ms. Rush, would you please introduce yourself and who you represent?

MS. RUSH: Thank you, Mr. Chairman.

CROSS-EXAMINATION

BY MS. RUSH:

Q Mr. Thress, I'm Tonda Rush. I represent National Newspaper Association, and I have just a couple of questions for you I think are fairly straightforward.

A Okay.

Q My questions are about within county mail, the subclass within three auto digit mail. In your testimony, you said you believe that the subclass does include the newspapers, is that correct?

A Yes.

Q Is that through the Postal Service program?

A Basically. Yes.

Q And I think you said in response to one of the presiding officer's information requests that you

have not examined the nonpostal delivery options for weekly newspapers. Is that correct?

A That is correct.

Q Is there a reason that you didn't?

A I'm not aware of any data sources on alternate delivery that would lend themselves to inclusion in an econometric equation. We've looked at the issue in a more general way in the past, although even there not in recent years that I remember.

Q So is it fair to say it's more of an absence of data and not a sense of relevance to your equation that drove that?

A Yes. That would be correct.

Q If you had data that showed you that there was a viable alternative will you consider it relevant to your equation?

A Yes.

Q Would it tend to create greater elasticity for the subclass if you saw that there was a substitute that could be used?

A Well, that would depend on as I explained in my responses to GCA talking about the issue of substitution and how it affects unpriced elasticity if in point of fact there is viable alternate delivery which substitutes within county mail and the price of

which is a variable that affects the demand then the within county mail equation I have would be misspecified to the extent that it doesn't have such a variable.

When you have a misspecified equation the variables that you've omitted from the equation, their impact is going to be reflected in the variables that you have included in the equation and it's going to bias those elasticities to the extent to which those variables that you conclude in the equation are correlated with the variable you omitted.

So if the price of alternate delivery is highly correlated with the price of within periodicals and in county mail then it could be the case that putting that price into the equation could in fact change my estimate of the own price elasticity.

If however it's not correlated, and again, to tie back to my responses to GCA the idea there electronic alternative prices have been declining over time, first-class stamp prices have been constant over time, so there's no correlation there, then that wouldn't bias that own price elasticity and instead that impact would be picked up in other variables.

Perhaps the trend term would be the most likely candidate I would think in the within a county

equation.

Q At the end of the day you have no data, so you don't know, correct?

A Have no data, so I don't know.

Q Okay. Would you turn with me to your Table 55 in your testimony which is on page 228 I believe?

A Okay.

Q If I understand the importance of the *T* statistics they basically tell you how you weight the coefficients in the equation?

A The *T* statistic tells how significant the estimates are.

Q Okay. Would it be fair to say then from examining Table 55 that the most significant elements that you've taken into account here are within the time trend for within county mail?

A In general. Yes.

Q Is it fair to say that within the time trends what you find is that the volumes have declined in the past and therefore you believe they will continue to decline?

A Yes.

Q Is that fair?

A Yes.

Q Would you explain to me how you treated the

dummy for the 1993 sampling change? How you discovered that there was a need for such a thing and how it affected your equation?

A Well, I think we discovered there was a need for such a thing because in 1993 when we started getting new data within county volume started coming in looking at the coefficient I'm guessing something like 15 percent lower than what we would have expected and when a volume comes in like that we try to come up with an explanation for it and in the course of that investigation it came to our attention that the RPW people had changed their sampling method.

I don't remember the details, and I don't know that I ever completely understood the details. It was sufficient to know that. So the data after that wasn't directly comparable to the data before that.

So mathematically what I do there is I put in a variable that's equal to zero prior to the sample, equal to one since the sample and essentially what that says is volumes are, again, judging from the coefficient about 15 percent lower sort of across the board since that time than they were before that time.

Q The data that you're using comes from RPW then for that?

A Yes.

Q All right. You understand because they gave you a change in their sampling method that part of the data come from the sampled estimates?

A Yes.

Q Okay. When you made that change then would it have affected the data prior to 1993? Did you have to go back and do any other adjustment there or would the dummy have taken care of that?

A No. The dummy should have taken care of that. That's the idea is that we don't have to restate volumes that way.

Q I think you said in your testimony that you believed that neither the broadband subscriber trend nor the cost of paper had a material affect in the volume decline?

A Well, I don't know exactly how I worded it, but I'm not sure that I -- it's not so much that I don't believe it, it's that those two variables did not work econometrically in the within county equation, and so I may have tried to hypothesize as to some plausible reasons as to why they may not have worked in the equations and why that may be reasonable to think they may not have worked.

Ultimately it's an empirical result. The

variables didn't work, and so they're not there.

Q One of my economist friends tells me that econometricians don't really care why something happens, they just want to explain the what. That the economists have to find a why. So I guess you're both of those.

A I kind of have to do both. Exactly.

Q Would it be fair to say that -- let me rephrase this. I've had many conversations with Dr. Tolley in these cases in the past and I won't try to represent what he said since he's not here to defend himself, but I will ask you the same thing that I have always asked him. Is it a frustration in setting up your demand equations finding data that you find useful and reliable to explain what the equation is telling you?

A Always. Yes.

Q So basically you have to rely on the RPW to explain what you see going on. Is that a fair statement?

A We treat the volumes that we're given from RPW as if they were given from God and we treat them as absolute. We have no other choice.

MS. RUSH: I think I better stop at that point, Mr. Chairman. Thank you.

CHAIRMAN OMAS: Thank you, Ms. Rush.

Are there any questions from the bench? Commissioner Goldway?

COMMISSIONER GOLDWAY: If I may. Just a couple. The Postmaster General gave a speech a couple of weeks ago to a group of people involved in internet shipping and thanked the internet for generating much larger quantities of packages than had been the case before and said that the Postal Service's volumes were going to grow in certain areas because of the internet.

Have you seen those figures that the Postmaster General was referring to, and were those most recent figures included in the projections that you were developing for this case?

THE WITNESS: I don't know the specific figures that the Postmaster General would have been referring to in that case. There are cases -- I mean, the package equations which we use to forecast package services do reflect that sort of behavior in some cases.

In the cases for example of both bound printed matter and media mail one of the variables used to forecast those is mail order retail sales and mail order retail sales include -- one component of

that is electronic commerce.

That is growing and mail order retail sales because of that has been growing faster than retail sales in general, and so that is reflected in our forecast of for example bound printed matter and media mail.

COMMISSIONER GOLDWAY: Now I'm confused. Retail sales would mean packages or is bound printed matter the books that are ordered through retail sales?

THE WITNESS: It would be books that are ordered. So for example Amazon I presume ships some things bound printed matter. I don't honestly know.

COMMISSIONER GOLDWAY: What about parcels?

THE WITNESS: My parcel forecasts don't include explicit variables reflecting sort of the benefit of the internet. It's less obvious in the data. The parcel equations that I use are primarily driven by their own prices and by competitive behaviors of UPS and Fed Ex. Those things sort of dominate the more general growth in the package market.

It is true that the package market has grown in part because of the internet.

COMMISSIONER GOLDWAY: So is that reflected

at all in your numbers or are your numbers just showing static volumes because there is constant competition from UPS and Fed Ex?

THE WITNESS: Yes. My numbers essentially show relatively static volumes because there's been constant competition with UPS and Fed Ex which is consistent with the historical data I looked at which also --

COMMISSIONER GOLDWAY: That does seem to contradict at least what the Postmaster General said in his speech a couple of weeks ago.

THE WITNESS: I'm not familiar with the Postmaster General's speech, so I wouldn't want to say.

COMMISSIONER GOLDWAY: What about volume for catalogs which seem to be a stimulus for driving people to the internet to purchase? What are the volume forecasts that you have for catalogs?

THE WITNESS: Well, again, we do our forecasts at the category based on mail classifications as opposed to content. Catalogs which are under a pound would fall into standard regular ECR. My understanding it would be more so in standard regular.

COMMISSIONER GOLDWAY: Right.

THE WITNESS: And then some of the heavier ones would be in bound printed matter. The standard regular equation does include a positive trend which has been ongoing historically as recently catalog volume I think has been driving probably a good bit of that and of course the bound printed matter equation as I just said is driven in part by mail order retail sales which are growing faster in the economy.

So in that sense, yes, those categories of mail which include catalog components are being forecasted to grow more strongly than the other categories of mail.

COMMISSIONER GOLDWAY: Am I correct in reiterating that when you were asked about the impact on volume of negotiated service agreements that you didn't know about them that much, you didn't know if there was an impact and they weren't factored into these projections?

THE WITNESS: Negotiated service agreements are incorporated explicitly into the forecasts by other people. These adjustments are made by Witness Kiefer primarily. That's documented on page 401 of my testimony.

In terms of historically to the extent that negotiated service agreements exist within the

historical timeframe over which I was looking at things they are reflected in my prices, but again, the price of first-class work shared letters as a whole is very, very, very slightly affected by these few cent discounts that are being given to Cap One for example.

It's just so small that while I do make a point of explicitly taking account of it in point of fact since I'm looking at total first-class work shared letters as a whole it would be all but impossible to try to isolate the impact of negotiated service agreements in that way.

COMMISSIONER GOLDWAY: Well, I understand that any one negotiated service agreement doesn't necessarily have an impact, but doesn't the fact that the Postal Service was able to conclude a negotiated service agreement with a first-class mailer that's based on volume discounts indicate some sort of price elasticity that may be different from what you've proposed?

THE WITNESS: I personally have not had the opportunity to investigate the question of the price elasticity of individual mailers.

COMMISSIONER GOLDWAY: Okay. Then I have one final question. There's this concept including a best selling book about something that I intuitively

believe as well called The Tipping Point where you start doing something, and doing something and then at some point through a news show or the level of acceptance of society everybody switches.

So television started and radio continued to have dramas for another six or seven years broadcast, but at a certain point nobody was listening to radio dramas anymore and totally changed. Even though for three or four years before that you could have said there was a constant reduction at some point there was a tipping point and it all shut off for that particular product.

You can make similar cases for the use of videotapes and DVDs, the kind of product acceptances in technology. Do you see anything like that with regard to first-class mail where at a certain point there's going to be such an erosion and such a shift that the next year it's gone?

THE WITNESS: It's certainly possible. I think historically we have seen a couple of obvious drops. In 2000 single piece letter volume which had been going along dropping I think one or two percent per year all of a sudden started dropping five or six percent per year and it sort of continued on that going forward.

With work shared first-class mail we did see, again, a volume that had consistently been growing five, six, seven percent in 2000-2001 slowed down and started growing two percent, 2003-2004 all of a sudden it fell. Now, in the case of work shared letters it's sort of come back somewhat and it's sort of resumed that one to two percent growth.

So those aren't the extremes that you're talking about. I mean, it's possible, yes. It's certainly possible that at some point in the future the standard will shift. It's still the norm to pay your bills by mail. We look at the household diary study data that I was talking about with the GCA and it still looks like depending on how you measure it something like probably about two-thirds of bills are still paid by mail.

Is there going to come a day where only 10 percent? I don't know. I mean, I think that's a long way off, and I don't necessarily know how I would go about predicting that. Yes, I think the theory is sound. I think it's possible.

COMMISSIONER GOLDWAY: You don't know how you might test it?

THE WITNESS: Well, again I mean ultimately our forecasts are based on --

COMMISSIONER GOLDWAY: If you look at these other examples for instance --

THE WITNESS: Well, yes.

COMMISSIONER GOLDWAY: -- is there a 30 percent or a 45 percent? Is there a kind of a model which says okay, once it gets to be 35 percent it all tips, or once it gets to be 55 percent it all tips? Is there a line that you can find in other technology shifts that might be useful to look at here?

THE WITNESS: I don't know how generalizable the shift from radio to television is to the shift from mail to online bill payment. It's hard to say. I think our forecast is the best estimate of the impact of electronic diversion on first-class mail for the next three years.

Once you get beyond that horizon then the potential of dramatic shifts may become more relevant, but even there saying that you're likely to get something at some point over the next 20 years doesn't necessarily help you know where on that 20 year timeframe to put the tipping point.

COMMISSIONER GOLDWAY: We've had so many examples. Telegrams which have stopped.

THE WITNESS: Right.

COMMISSIONER GOLDWAY: Even faxes which took

off for a while and now have been replaced. Do you think it would be advisable for the Postal Service to start looking at those trends for long-term planning purposes?

THE WITNESS: I'm not directly involved in Postal Service long-term planning beyond provided them the forecast numbers, but the thing to keep in mind is I'm sure it's useful to look at sort of pessimistic scenarios. Certainly pessimistic, worst-case postal scenarios are probably a lot more pessimistic than if you had tried to make that scenario say 20 years ago.

I still think the most likely scenario, though, the baseline scenario is that what we're going to see is a continued decline commensurate with what we're seeing perhaps with some acceleration, perhaps with some expansion into some other categories of mail.

It depends on what purpose the Postal Service could make do with of kind of a worst-case scenario because I don't think you'd want to plan the number of post offices around an assumption that volume is going to decline 50 percent over the next 10 years because what if it doesn't? Because the best guess extending the trends forward is that that's not going to happen.

COMMISSIONER GOLDWAY: Well, I'm glad to hear your positive outlook. Thank you.

CHAIRMAN OMAS: Is there any additional cross-examination of Witness Thress?

Mr. Thress, I do have a question for you and my question concerns classroom mail.

THE WITNESS: Okay.

CHAIRMAN OMAS: Do you have your Library Reference 63 with you?

THE WITNESS: Yes.

CHAIRMAN OMAS: Good.

THE WITNESS: Let me find it. It's somewhere in this pile. There it is. Sixty-three. Yes.

CHAIRMAN OMAS: Good. In your testimony you analyzed nonprofit and classroom together.

THE WITNESS: Yes.

CHAIRMAN OMAS: Combined they have a declining trend. You project a two percent decline in the test year before rates classroom volumes, however the volume for classroom periodicals alone has increased each of the last three years. Would you please discuss how this fact entered into your analysis?

THE WITNESS: Well, the short simple answer

is it really didn't. I mean, my analysis of nonprofit and classroom mail combined focused on the combined volume. Classroom mail represents three or four percent I think of the combined volume, so I didn't really look at classroom specifically.

It was my understanding that the Postal Service was only interested largely in the combined volume, so in that sense -- so, yes, my classroom forecast is not reflective of the unique classroom trends.

CHAIRMAN OMAS: You didn't combine, the Postal Service asked that they be combined.

THE WITNESS: That was my understanding as to why they were combined. Yes.

CHAIRMAN OMAS: Okay. Thank you very much.

Mr. Koetting, do you need some time with your witness?

MR. KOETTING: If I could have two minutes?

CHAIRMAN OMAS: Absolutely. You can take three.

(Pause.)

MR. KOETTING: No redirect, Mr. Chairman.

CHAIRMAN OMAS: Thank you very much.

Mr. Thress, that completes your testimony here today. We appreciate your appearance and your

contribution to your record. You are now excused, and thank you very much.

(Witness excused.)

CHAIRMAN OMAS: Mr. Koetting, would you please identify the next Postal Service witness so that I can swear him in?

MR. KOETTING: Thank you, Mr. Chairman. The Postal Service calls Peter Bernstein to the stand.

CHAIRMAN OMAS: Mr. Bernstein, would you raise your right hand?

Whereupon,

PETER BERNSTEIN

having been duly sworn, was called as a witness and was examined and testified as follows:

CHAIRMAN OMAS: Be seated.

Mr. Koetting?

(The document referred to was marked for identification as Exhibit No. USPS-T-8.)

DIRECT EXAMINATION

BY MR. KOETTING:

Q Could you please state your full name and title for the record?

A Yes. It's Peter Bernstein, and I'm Vice President of RCF Economic and Financial Consulting.

Q Mr. Bernstein, in front of you are two copies of a document entitled direct testimony of Peter Bernstein on behalf of the United States Postal Service which has been labeled as USPS-T-8. Are you familiar with that document?

A I am.

Q Was it prepared by you or under your supervision?

A Yes, it was.

Q If you were to testify orally today would your testimony reflect the contents of that document?

A Yes, it would.

Q Do you have any Category 2 library references associated with this testimony?

A Yes. I have a Library Reference 105.

Q Is it your intent to sponsor that library reference?

A It is.

MR. KOETTING: Mr. Chairman, the Postal Service requests that the direct testimony of Peter Bernstein on behalf of the United States Postal Service, USPS-T-8, and the associated library reference be admitted into evidence.

CHAIRMAN OMAS: Are there any objections?

(No response.)

CHAIRMAN OMAS: Hearing none, so ordered. I will direct counsel to provide the reporter with two copies of the corrected direct testimony of Peter Bernstein.

That testimony is received into evidence. However, as is our practice, it will not be transcribed.

(The document referred to, previously identified as Exhibit No. USPS-T-8, was received in evidence.)

CHAIRMAN OMAS: Mr. Bernstein, have you had an opportunity to examine the packet of designated written cross-examination presented to you this morning?

THE WITNESS: Yes.

CHAIRMAN OMAS: If the questions were posed to you orally today would they be the same as those you provided in writing?

THE WITNESS: Yes, they would.

CHAIRMAN OMAS: Are there any corrections or additions you would like to make to those answers?

THE WITNESS: No.

CHAIRMAN OMAS: Counsel, would you please provide two copies of the corrected designated written

cross-examination of Witness Bernstein to the reporter?

That material is received into evidence and is to be transcribed into the record.

(The document referred to was marked for identification as Exhibit No. USPS-T-8 and was received in evidence.)

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BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, DC 20268-0001

Postal Rate and Fee Changes, 2006 Docket No. R2006-1

DESIGNATION OF WRITTEN CROSS-EXAMINATION
OF UNITED STATES POSTAL SERVICE
WITNESS PETER BERNSTEIN
(USPS-T-8)

| Party | Interrogatories |
|---|---|
| Advo, Inc. | GCA/USPS-T8-1-7 |
| Greeting Card Association | GCA/USPS-T8-1-7 |

Respectfully submitted,

Steven W. Williams
Secretary

INTERROGATORY RESPONSES OF
UNITED STATES POSTAL SERVICE
WITNESS PETER BERNSTEIN (T-8)
DESIGNATED AS WRITTEN CROSS-EXAMINATION

| Interrogatory | Designating Parties |
|---|---|
| GCA/USPS-T8-1 | Advo, GCA |
| GCA/USPS-T8-2 | Advo, GCA |
| GCA/USPS-T8-3 | Advo, GCA |
| GCA/USPS-T8-4 | Advo, GCA |
| GCA/USPS-T8-5 | Advo, GCA |
| GCA/USPS-T8-6 | Advo, GCA |
| GCA/USPS-T8-7 | Advo, GCA |

## RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN TO INTERROGATORIES OF GCA

**GCA/USPS-T8-1**

Your testimony (USPS-T-8 at 4) states that "the purpose of [the] testimony is not to provide specific estimates of historical or future electronic diversion, but to provide a narrative that accompanies the testimony of Mr. Thress."

a. Table 10 of witness Thress' testimony (USPS T-7) forecasts that the marginal number of pieces of First Class Mail electronically diverted in 2006 will be 4,342,924, but in 2007, 2008, and 2009 the annual figure will drop below the level of historical diversion in 2005 (4,130,686 diverted pieces) and decrease to 3,747,472 diverted pieces in 2009. Explain in full, how, if at all, your testimony supports Mr. Thress' forecast that fewer pieces of First Class Mail will be electronically diverted in years 2007, 2008, and 2009 than in year 2005.

b. Exclusive of Mr. Thress' forecast, state whether you believe that fewer pieces of First Class Mail will be electronically diverted in years 2007, 2008, and 2009 than in year 2005. Provide the basis of your answer in full.

c. Exclusive of Mr. Thress' forecast (and econometric calculations) identify what information (specifically and by type) you would find it appropriate to consider for business forecast purposes to address the issue of whether fewer pieces of First Class Mail will be electronically diverted in years 2007, 2008, and 2009 than in year 2005 and to otherwise estimate the level of electronic diversion of FCLM in 2007, 2008, and 2009. Provide the basis of your answer in full.

**RESPONSE:**

a. My testimony documents the growth in several technological alternatives to the mail and links this growth to the recent decline in First-Class Mail volumes. It does not make forecasts of future mail volumes or future levels of electronic diversion. Nonetheless, the evidence presented supports the view that electronic diversion will continue into the future.

This assessment is consistent with the forecasts presented by witness Thress, who also forecasts continued electronic diversion into the future. My testimony does not make an assertion regarding the pace of electronic diversion. The "marginal" diversion as you refer to it, or the "incremental" diversion as I refer to it in my R2001-1 testimony, may increase, decrease, or stay the same.

**RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN TO INTERROGATORIES OF GCA**

Consider the following simple example. Suppose in prior Year 1, 85 percent of bills are paid by mail and 15 percent are paid electronically. I will ignore bills paid in-person in this example. Suppose in current Year 2, the electronic share rises to 25 percent and the mail share falls to 75 percent. Suppose, finally, in future Year 3, the electronic share rises to 34 percent and the mail share falls to 66 percent.

From Year 1 to Year 2 to Year 3, there has been an increase in the use of electronic bill payment, as the share has risen from 15 percent to 25 percent to 34 percent. There has been a corresponding decline in the share of payments by mail, falling from 85 percent to 75 percent to 66 percent.

But, note, the incremental diversion of mail in the future (9 percent of total payments due to an increase in the electronic share from 25 percent to 34 percent) is less than the incremental diversion of mail in the past (10 percent of total payments due to an increase in the electronic share from 15 percent to 25 percent).

This analysis is consistent with the argument presented in my testimony that the use of electronic alternatives to the mail will increase, consistent with the argument that there will be additional electronic diversion of mail, and consistent with the estimated levels of historical and future electronic diversion presented in the testimony of Mr. Thress.

b. My belief is that over the next few years, the pace of electronic diversion is likely to remain as it has over the past few years. The pace of electronic diversion is best measured as a percentage of mail volume diverted from one year to the next. Therefore, a constant percentage diversion could result in a decline in the number of pieces diverted, simply because as volume declines, there is less and less mail remaining to be diverted. This is the case with single-piece letters, as shown in the table below.

**RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN TO INTERROGATORIES OF GCA**

The table presents historical and R2006-1 after-rates forecasted volumes of First-Class single-piece and workshare letters. It also shows the estimated incremental diversion of single-piece and workshare letters, both historically and in the forecast period, taken from Mr. Thress's Table 10. Incremental diversion is measured as the percentage of the prior year's volume lost due to diversion in a given year. For example, First-Class single-piece volume in 2002 was 49,253.266 million pieces, which can be viewed as the starting volume for 2003. During 2003, it is estimated by Mr. Thress that 2,788.306 million pieces were diverted, equal to 5.66 percent of the starting volume.

My table shows that the pace of electronic diversion over the recent past is similar to the pace projected for the near future, as I would expect it to be. In the case of single-piece letters, historical diversion has averaged 6.04 percent of volume while projected diversion averages 6.36 percent of volume. Thus, the percentage of remaining single-piece letter volume diverted in the future is greater than in the recent past, even while the absolute volume of incremental diversion declines due to the continued decline in single-piece volume.

For workshare letters, the values are 3.00 percent and 2.92 percent, and for total First-Class Mail (also including First-Class cards), the values are 4.33 percent and 4.26 percent. The small decline in the percent of total First-Class Mail incrementally diverted is due to the decrease in single-piece volume relative to workshare volume.

# RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN TO INTERROGATORIES OF GCA

**First-Class Single Piece Letters**

| | Prior Year's Volume | Current Year Diversion | % of Volume Diverted |
|---|---|---|---|
| 2003 | 49,253.266 | 2,788.306 | 5.66% |
| 2004 | 46,557.786 | 2,958.496 | 6.35% |
| 2005 | 45,161.746 | 2,757.899 | 6.11% |
| Average | | | **6.04%** |
| | | | |
| 2006 | 43,375.988 | 2,779.970 | 6.41% |
| 2007 | 41,410.402 | 2,568.699 | 6.20% |
| 2008 | 39,104.641 | 2,466.870 | 6.31% |
| 2009 | 37,206.438 | 2,423.321 | 6.51% |
| Average | | | **6.36%** |

**First-Class Workshare Letters**

| | Prior Year's Volume | Current Year Diversion | % of Volume Diverted |
|---|---|---|---|
| 2003 | 47,658.076 | 1,811.965 | 3.80% |
| 2004 | 47,287.971 | 1,141.289 | 2.41% |
| 2005 | 47,333.818 | 1,323.722 | 2.80% |
| Average | | | **3.00%** |
| | | | |
| 2006 | 49,065.552 | 1,492.332 | 3.04% |
| 2007 | 48,748.410 | 1,495.231 | 3.07% |
| 2008 | 48,376.760 | 1,410.574 | 2.92% |
| 2009 | 48,427.200 | 1,276.957 | 2.64% |
| Average | | | **2.92%** |

**Total First-Class Mail**

| | Prior Year's Volume | Current Year Diversion | % of Volume Diverted |
|---|---|---|---|
| 2003 | 102,378.632 | 4,672.842 | 4.56% |
| 2004 | 99,058.856 | 4,181.693 | 4.22% |
| 2005 | 97,926.396 | 4,130.686 | 4.22% |
| Average | | | **4.33%** |
| | | | |
| 2006 | 98,070.956 | 4,342.924 | 4.43% |
| 2007 | 95,815.357 | 4,110.310 | 4.29% |
| 2008 | 93,156.413 | 3,919.518 | 4.21% |
| 2009 | 91,291.090 | 3,747.473 | 4.10% |
| Average | | | **4.26%** |

**RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN
TO INTERROGATORIES OF GCA**

c. One approach would be to estimate the growth in the use of various technological alternatives to the mail and combine those estimates with estimates of the impact of the use of each technology on the diversion of First-Class Mail. For example, one could hypothesize a certain volume loss corresponding to a projected increase in the level of e-mail.

The drawback of this approach is that the results can be extremely sensitive to the assumed diversion ratio, and for many technologies the plausible range of diversion ratios is quite large. Furthermore, there is the difficulty of aggregation, given the fact that growth in the use of some technologies affects not only the volume of mail but also the use of other technologies. For example, online bill payments clearly replace some mailed bill payments, but they may also replace payments made by other methods, such as in-person or by telephone. Another problem with this approach is that because First-Class Mail is affected by myriad technological changes, a slowing in the growth rate of the use of some technologies can be easily offset by an acceleration of the growth rate in other technologies.

A second approach would be to decompose First-Class Mail into individual mail segments and make a segment-by-segment projection of diversion. Total projected diversion would be the sum of projected diversion of each mail type, which could then be compared with historical estimates of diversion to determine whether the projected number of pieces diverted is rising, falling, or remaining the same.

For example, an important mail segment is household bill payments. The share of bills paid by mail could be projected into the future, based on analysis of historical shares as well as projections of key drivers of bill payment activity such as the number of households with Internet access, the number of broadband households, the number of online banking households, changes in the perceived advantages of different payment methods in terms of cost, convenience, reliability and security. From that, one

could make a forecast of the future diversion of household bill payments and compare the forecast with recent historical diversion.

That approach could then be repeated for each important segment of First-Class Mail, e.g., correspondence, bills and statements sent to households, advertising, non-household to non-household mail, etc. A forecast of total diversion would equal the sum of the forecasts of diversion of each mail segment.

Of course, to know whether this forecast represents an increase or a decrease in diversion would require an estimate of historical diversion. To do that, one could look at historical volumes of each mail segment, recognizing that one would have to take account of other factors which drive historical volumes such as postal rates and economic conditions.

Or, one could account for the impacts of postal rates, economic conditions, and electronic diversion by constructing an econometric model of mail volumes, including variables that reflect the impacts of these and other variables, and use the coefficients obtained from that econometric equation to calculate estimates of historical diversion and to make forecasts of future diversion. This is the approach taken by Mr. Thress and it is superior to any other approach I have encountered.

**RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN TO INTERROGATORIES OF GCA**

**GCA/USPS-T8-2**

Your testimony (USPS-T-8 at 27) states that "the use of technological alternatives to the mail will continue to increase in the future." Reconcile this statement with Mr. Thress' forecast that fewer pieces of First Class Mail will be electronically diverted in years 2007, 2008, and 2009 than in year 2005. Provide the basis of your answer in full.

**RESPONSE:**

As stated in my response to your interrogatory 1a, an increase in the use of technological alternatives implies further electronic diversion. It does not require that the number of pieces diverted in a future year (incremental diversion) be greater than the number of pieces diverted in an earlier year. Incremental diversion could decline because the growth rate of the use of technological alternatives has slowed, as shown in my earlier example concerning bill payment activity. Or, as is the case with single-piece letters shown in the table accompanying my response to your interrogatory 1b, the number of pieces diverted in a future year could be less than the number diverted in an earlier year simply because of the decline in volume which leaves few pieces remaining to be diverted.

**RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN TO INTERROGATORIES OF GCA**

**GCA/USPS-T8-3**

Your testimony (USPS-T-8 at 50) states that "the use of electronic alternatives to paying bills by mail found in the Diary Study are corroborated by a variety of other sources, some of which were mentioned in my R2005-1 testimony at pages 24 to 34." Please identify all of the sources of which you are aware that corroborate this phenomenon and provide copies of the supporting materials in your possession.

**RESPONSE:**

I am informed that an opportunity to inspect those materials at Postal Headquarters can be arranged through my postal counsel at 202/268-2992.

## RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN TO INTERROGATORIES OF GCA

**GCA/USPS-T8-4**

Your testimony (USPS-T-8 at 57) states that "online bill presentment [is] a development that would affect the volume of bills sent through the mail." State your opinion as to whether you expect the volume of online bill presentment to grow in the next few years (i.e., 2006-2009). Provide the basis of your answer in full.

**RESPONSE:**

I expect online bill presentment to continue to grow over the next few years. This increase in online bill presentment will lead to further diversion of bills and statements sent through the mail, though the eventual volume of bill and statement mail is dependent on other factors in addition to the level of online bill presentment.

Evidence supporting the view that online bill presentment will increase is found in the Household Diary. The share of bills presented electronically increased from 1 percent in 2002 to 7 percent in 2005. Furthermore, as households continue to make greater use of online bill payment, it seems reasonable that some of these households will opt for online bill presentment so that the bill receipt and payment operation moves entirely online. Finally, I believe that as consumer interest in receiving bills online increases, more billers will begin offering online bill presentment to their customers.

## RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN TO INTERROGATORIES OF GCA

**GCA/USPS-T8-5**

Your testimony (USPS-T-8 at 60) states that "online bill payment ... could be the key driver of the future shares of bills paid by mail." Reconcile this statement with Mr. Thress' forecast that fewer pieces of First Class Mail will be electronically diverted in years 2007, 2008, and 2009 than in year 2005. Provide the basis of your answer in full.

**RESPONSE:**

I see nothing that needs to be "reconciled." Growth in online bill payment will reduce payments by mail. Whether the mail payment reduction occurs at a faster, slower, or similar rate depends on whether the growth in online bill payment occurs at a faster, slower, or similar rate, also taking account of the growth in other forms of electronic payments.

Moreover, the diversion of household bill payments is only one aspect of the diversion of First-Class Mail presented in Mr. Thress's testimony.

## RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN TO INTERROGATORIES OF GCA

**GCA/USPS-T8-6**

Your testimony (USPS-T-8 at 60) states that "online bill payment ... could be the key driver of the future shares of bills paid by mail." State your opinion as to what you believe will be the key driver of the volume of FCLM electronically diverted in the next few years (i.e., 2006-2009). Provide the basis of your answer in full.

**RESPONSE:**

I do not believe there is a single key driver of the diversion of First-Class Mail because First-Class Mail consists of many different types of mail, each of which may be affected by different drivers of diversion. For example, online bill payment is likely to be the key driver of diversion of household bill payments. Broadband access may be the key driver of the diversion of bill and statement mail to households. E-mail advertising may be the key driver of the diversion of First-Class advertising mail. Services such as E-Vite may be the key driver of the diversion of First-Class invitations. Changing views toward the acceptability of e-mail might be the key driver the diversion of various other kinds of personal mail. The ability of businesses to coordinate their invoice, billing, and payment operations may be the key driver of the diversion of certain types of business-to-business First-Class Mail.

**RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN TO INTERROGATORIES OF GCA**

**GCA/USPS-T8-7**

State whether you have ever communicated to anyone as to whether, and to what Extent, FCLM volumes will be impacted by electronic diversion, *including, but not limited* to, the time period of the next few years (i.e., 2006-2009). Identify all such communications, state to whom they were made, and provide the substance of the communiciation.

**RESPONSE:**

Much of my work at RCF involves analysis of electronic diversion. Communications regarding the impact of diversion on mail volumes occur almost on a daily basis. Your interrogatory appears to seek a daily record of my work over a period of several years, a request I view as impractical. The thrust of what I have been communicating is what has been presented as my direct testimony in this case, as well as in my testimonies in R2005-1 and R2001-1.

In addition to these testimonies, I have worked on the creation of pessimistic and optimistic diversion scenarios, based on different assumptions about the growth in the use of the many drivers of electronic diversion. The purpose of these scenarios is to identify a wide range of risks and opportunities facing the Postal Service, beyond those presented in the most likely, baseline scenario. The results of this work can be found on page 8 of the Postal Service's September 2005 "Strategic Transformation Plan: 2006 – 2010," available on the Postal Service's web site, www.USPS.com.

CHAIRMAN OMAS: This brings us to oral cross-examination. One participant has requested oral cross-examination, the Greeting Card Association.

Mr. Horwood, because of the time I'm not going to hold you to anything, but I was going to ask you about a lunch period and everything. We're willing to go through if it's -- do you have an idea of how long?

MR. HORWOOD: Perhaps up to an hour. If we want to take a lunch break, that would be fine. I do have one other matter.

CHAIRMAN OMAS: Actually, would you turn your mic on, please?

MR. HORWOOD: I'm sorry. I would guess perhaps an hour, perhaps less. This would be a convenient time for the break. I do have one other matter and that's that there is an additional written cross-examination. We received a response to one of our outstanding interrogatories late yesterday afternoon and I do have copies which I would like to have incorporated as written cross-examination.

CHAIRMAN OMAS: Well, I think we were of the mind to proceed. I think we've got a consensus here. We will go ahead. You can start your cross-examination. Thank you very much, Mr. Horwood.

MR. HORWOOD: I go ahead and move to put it in the record as written cross-examination of responses to Postal Service witness -- to interrogatory --

CHAIRMAN OMAS: Without objection. So ordered.

(The document referred to was marked for identification as Exhibit No. GCA/USPS-T-8-8.)

MR. KOETTING: Could the witness take a look at those, please?

CHAIRMAN OMAS: Yes.

CROSS-EXAMINATION

BY MR. HORWOOD:

Q Mr. Bernstein, is what has just been marked as a response to GCA USPS-T-8-8 your response to that interrogatory?

A Yes, it is.

Q If you were asked the questions today would your answers be as indicated?

A Yes, it would.

MR. HORWOOD: Mr. Chairman, I would like to have this included as part of the record.

CHAIRMAN OMAS: Without objection. So ordered.

(The document referred to, previously identified as Exhibit No. GCA/USPS-T-8-8, was received in evidence.)

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**RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN TO INTERROGATORY OF GCA**

**GCA/USPS-T8-8**

Your interrogatory response GCA/USPS-T8-7 states, in part, that "I have worked on the creation of pessimistic and optimistic diversion scenarios, based on different assumptions about the growth in the use of the many drivers of electronic diversion."

a. Explain in detail the methodology used in the First Class pessimistic diversion scenario, identify how that scenario calculated the amount of electronic diversion, and identify the inputs used to account for "different assumptions about the growth in the use of the many drivers of electronic diversion." Explain, further, whether the scenario used the same Internet variable used in the Thress' econometric model used in this case.

b. Explain in detail the methodology used in the First Class optimistic diversion scenario, identify how that scenario calculated the amount of electronic diversion, and identify the inputs used to account for "different assumptions about the growth in the use of the many drivers of electronic diversion." Explain, further, whether the scenario used the same Internet variable used in the Thress' econometric model used in this case.

c. Explain in detail the methodology used in the First Class baseline diversion scenario, identify how that scenario calculated the amount of electronic diversion, and identify the inputs used to account for "different assumptions about the growth in the use of the many drivers of electronic diversion." Explain, further, whether the scenario used the same Internet variable used in the Thress' econometric model used in this case.

d. To the extent not explained above, explain whether the First Class pessimistic, optimistic, and baseline scenarios utilized the same methodologies and explain what different assumptions, variables, or inputs account for the different models.

e. To the extent not explained above, identify specifically and individually all of the referenced "many drivers of electronic diversion."

f. To the extent not explained above, provide the same information for a., b., c., and d. with respect to the pessimistic, baseline, and optimistic scenarios for total mail volume (as appear in the September 2005 Strategic Transformation Plan at p.8).

g. Provide all documents that explain, discuss or set forth the pessimistic, optimistic, and baseline scenarios, including any communications from the United States Postal Service concerning same.

**RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN TO INTERROGATORY OF GCA**

**RESPONSE:**

a. - f. A purpose of the scenario analysis in the Strategic Plan is to provide postal management with a range of plausible future volumes around the baseline forecast. The baseline forecast is made in the same way as a rate case forecast. Econometric equations were estimated using data through 2005Q3. Forecasted values of the explanatory variables were made, and the impacts of those explanatory variables were projected based on the estimated volume elasticities. For example, economic variable projections were based on Global Insight's July baseline economic forecast. In Docket No. R2001-1, the forecasts of the electronic diversion variables were made by me. In R2005-1 rate case, 2005 Strategic Plan, and R2006-1 rate case, however, the electronic diversion variables were forecasted directly by Mr. Thress. Combining his diversion variable forecasts with the estimated elasticities of the diversion variables, a baseline forecast of electronic diversion is created. The baseline forecast is the forecast that reflects what is believed to be the most likely track that mail volume will follow in the future. It projects that electronic diversion will continue at approximately the same pace as it had been in recent years.

The pessimistic and optimistic scenarios for First-Class Mail are created by varying the economic variable forecasts and the projected level of electronic diversion. One step is to create pessimistic and optimistic projections of the economic variables. In the Strategic Plan forecast, the pessimistic economic scenario was created by assuming a return of the "jobless recovery" that existed in 2002 and 2003. The optimistic economic scenario was created by assuming a return to the economic boom that prevailed in the 1990s. Based on these two economic histories, future economic values are projected, and these become inputs into the scenario forecasts.

**RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN TO INTERROGATORY OF GCA**

In the case of electronic diversion, the pessimistic scenario projects greater annual future diversion than in the baseline forecast, while the optimistic scenario projects less annual future diversion. The analysis is not based on alternative projections of the diversion variables, but based on the establishment of conditions consistent with greater or lesser diversion. The reason behind this approach, as opposed to the approach used in creating economic scenarios, is to provide postal management with an understanding of the "states of the world" that would generate different levels of diversion. In other words, while people have an intuitive understanding of the features of a weaker or stronger economy (i.e., jobless recovery, economic boom) they are less inclined to have an intuitive understanding of what it means for ISP consumption expenditures, for example, to increase at a slower or faster rate than projected in the baseline forecast.

What conditions would be consistent with greater electronic diversion? One driver would be greater than projected Internet penetration or broadband adoption. Competition between Internet provides could intensify, access rates could fall, and adoption levels would in turn be greater than projected in the baseline. Other conditions consistent with greater electronic diversion would be an acceleration of the pace of electronic payments which in turn leads to more rapid adoption of the electronic presentment of bills and statements. Similarly, e-mail advertising could become a more effective medium, leading to greater losses of First-Class advertising mail.

The pessimistic level of annual diversion that is chosen is ultimately a judgmental exercise. The "inputs" to this projection are the understanding of the markets for First-Class Mail, the level of historical diversion (estimated econometrically) and the reasonableness of the final scenario forecast.

**RESPONSE OF POSTAL SERVICE WITNESS BERNSTEIN
TO INTERROGATORY OF GCA**

The optimistic scenario is created in a similar way. What conditions would be consistent with a slowdown of electronic diversion? One possibility is that Internet penetration peaks out at near its current level, much in the way that cable TV penetration peaked at a level far less than universal access. Online banking and its related activities (electronic bill payment and presentment) could slow, perhaps because a major security breach deters people from conducting financial transactions online. E-mail adverting could succumb to the inefficiencies of clutter, and e-mail spam could become so prevalent that it undermines the effectiveness of legitimate advertising online. The optimistic level of annual diversion chosen for the Strategic Plan, like the pessimistic level, is a judgmental forecast.

Thus, the pessimistic and optimistic scenarios were developed to provide some understanding of the potential range of impact on projected mail volumes stemming from plausible variations in various underlying forecast drivers. The purpose of the scenario exercise was to estimate flow-through effects on volumes of the assumed variations if they were to occur, rather than attempt to assess the likelihood that they would occur. As such, no particular probabilities were assigned to those scenarios. At the time the baseline forecast was made and the scenario exercise was conducted, the baseline forecast was, by construction, the best available forecast of the most likely future volumes. The same holds true now for the rate case forecast presented by Mr. Thress.

g. The document attached electronically provides a detailed discussion of the 2005 Strategic Plan baseline, pessimistic, and optimistic scenario forecasts.

Postal Rate Commission
Submitted 8/8/2006 4:14 pm
Filing ID: 52147
Accepted 8/8/2006

# 2005 Mail Volume Forecast Scenarios
## EXECUTIVE SUMMARY

This paper presents three volume forecast scenarios for the fiscal years running from 2005 through 2010: a baseline scenario, a pessimistic scenario, and an optimistic scenario. These different volume forecasts are derived from analysis of the impacts of key drivers on mail volume: the economy, electronic diversion, and the behavior of postal competitors. The pessimistic and optimistic scenarios vary the projections of the key volume drivers from the baseline projections. These alternative scenarios are designed to give a plausible range of volumes over the next five years, given the different scenario assumptions. More or less extreme assumptions would bring about more or less extreme volume ranges. All three forecasts are based on the Postal Service's 2005Q3, which uses postal volume data through 2005Q3 and economic data available as of July 2005.

The baseline forecast is the most likely scenario. The second most likely scenario is the pessimistic forecast, which assumes that economic factors contribute less to mail volume growth and electronic diversion causes more mail volume decline than is projected in the baseline forecast. The least likely scenario is the optimistic forecast, which assumes greater positive contribution from the economy and lower volume losses from electronic diversion.

For example, the baseline scenario assumes that electronic diversion will remove approximately 3.5 billion pieces of First-Class Mail volume per year, consistent with the estimated diversion impact over the past few years. The baseline scenario also assumes that Standard Mail will remain largely unaffected by electronic diversion for the next few years, but by 2009, competition from the Internet and other new media will begin diverting about 1.0 billion pieces of Standard Mail annually.

In contrast, the pessimistic scenario assumes that the diversion of First-Class Mail will increase to about 4.5 billion pieces per year and that approximately 2.0 billion pieces of Standard Mail will be diverted annually beginning in 2009. The optimistic scenario assumes that the diversion of First-Class Mail will decline to about 2.5 billion pieces per year and that Standard Mail will continue to be unaffected to a significant degree by electronic diversion.

Regarding the economy, two key drivers of mail volume are employment and real (inflation-adjusted) retail sales. The baseline scenario uses Global Insight's July 2005 forecasts. This forecast projects that from 2005 through 2010, between 1.0 and 1.5 million jobs will be added to the economy each year and real retail sales growth will average 2.3 percent per year. In the pessimistic volume forecast scenario, employment grows moderately in 2006 and then declines in 2007, consistent with the onset of a mild recession, certainly a plausible event over the

next few years. By 2010, employment recovers to its 2006 level, meaning that the pessimistic economic scenario projects little net increase in employment over the next five years. The pessimistic scenario also projects that over the five-year period from 2005 through 2010, real retails sales growth averages just 0.5 percent per year. Finally, the optimistic scenario assumes that employment grows by an average of more than 2.0 million jobs per year and that real retail sales increase by 4.1 percent per year between 2005 and 2010.

With respect to competitor behavior, the baseline scenario assumes that trends that have developed in the competitive postal markets will continue as they have into the future. These markets include Priority Mail, Express Mail, Standard Mail, and Parcel Post. The pessimistic scenario assumes these markets become even more competitive to the detriment of postal volumes. The optimistic scenario assumes these markets become less competitive, benefiting postal volumes.

All three scenarios assume implementation of the proposed R2005-1 rates on January 1, 2006. In addition, the three scenarios assume a 5.5 percent across-the-board rate increase occurring January 1, 2007 followed by annual across-the-board rate increases of 3.0 percent on January 1, 2008, 2009, and 2010. These rate increases are not projections of future rates but are included to provide a more realistic view of future volumes than would result from the assumption of no rate increases following R2005-1. The 3.0 percent annual rate increases are also consistent with what might occur under price cap regulation.

Table ES-1 presents the baseline, pessimistic, and optimistic scenario forecasts.

**Table ES-1: Mail Volume Forecast Scenarios, FY2005-2010 (billions pieces)**

| Scenario | Class | 2003 *actual* | 2004 *actual* | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|
| Baseline | First-Class | 99.1 | 97.9 | 98.1 | 95.4 | 92.0 | 89.9 | 87.5 | 85.5 |
| | Standard | 90.5 | 95.6 | 100.7 | 104.4 | 106.3 | 109.0 | 110.6 | 111.9 |
| | All Other | 12.6 | 12.6 | 12.8 | 12.9 | 12.7 | 12.7 | 12.5 | 12.6 |
| | TOTAL | 202.2 | 206.1 | 211.6 | 212.7 | 211.0 | 211.6 | 210.6 | 210.0 |
| Pessimistic | First-Class | 99.1 | 97.9 | 98.0 | 94.2 | 89.5 | 86.1 | 82.0 | 78.6 |
| | Standard | 90.5 | 95.6 | 100.6 | 102.9 | 102.4 | 102.7 | 101.6 | 100.7 |
| | All Other | 12.6 | 12.6 | 12.8 | 12.7 | 12.1 | 11.8 | 11.4 | 11.2 |
| | TOTAL | 202.2 | 206.1 | 211.4 | 209.6 | 204.0 | 200.6 | 195.0 | 190.5 |
| Optimistic | First-Class | 99.1 | 97.9 | 98.4 | 98.1 | 96.8 | 96.7 | 96.0 | 95.4 |
| | Standard | 90.5 | 95.6 | 100.8 | 105.9 | 109.6 | 114.4 | 118.5 | 122.1 |
| | All Other | 12.6 | 12.6 | 12.8 | 13.0 | 13.1 | 13.4 | 13.5 | 13.8 |
| | TOTAL | 202.2 | 206.1 | 212.0 | 217.0 | 219.5 | 224.5 | 228.0 | 231.3 |

In the baseline scenario, total mail volume is projected to increase in 2006, but then decline so that total mail volume in 2010 is projected to be 210.0 billion pieces, 1.6 billion pieces lower than volume in 2005. In the pessimistic scenario, total volume is projected to decline consistently, falling to 190.5 billion pieces in 2010, an average annual decline of two percent over the next five year period. Only in the optimistic scenario is total mail volume projected to grow continually over the next five years, with the optimistic projection of 2010 total mail volume of 231.3 million pieces. Nonetheless, the projected growth rate of volume in the optimistic scenario is just 1.8 percent per year, barely greater than the projected growth in population or postal delivery points over the next five years

The remainder of this report is organized as follows. Section I presents an overview of three scenario forecasts. Section II presents a discussion of the scenario forecasts of individual major mail products. In this section, the assumptions underlying the three scenarios are described as they pertain to each mail product. Section III provides a detailed description of the approach used to develop the assumptions underlying each volume forecast scenario. Section IV presents a comparison of the current baseline, pessimistic, and optimistic forecasts with the 2005Q1 forecasts, which were used in the R2005-1 rate case and the 2004Q3 forecasts, used in the 2005 Integrated Financial Plan. An appendix to this document presents the current baseline, pessimistic, and optimistic forecasts through 2014.

# I. Forecast Overview

## a. Baseline Forecast (Most Likely)

The baseline forecast is the most probable scenario, based on the view that trends that have been emerging over the past few years are likely to continue. The current baseline forecasts an increase in total mail volume from 211.6 billion pieces in FY 2005 to 212.7 billion pieces in FY 2006. By 2010, however, volume is projected to decline to 210.0 million pieces in the baseline scenario, a lower volume than is projected for 2005.

The current baseline forecast is for First-Class Mail volume to fall from 98.1 billion pieces in 2005 to 85.5 billion pieces in 2010. The forecasted average decline of 2.7 percent per year is driven by electronic diversion, as well as the negative impact of higher postal rates assumed in the 2005Q1 forecast. Standard Mail volume, on the other hand, is projected to increase from 100.7 billion pieces in 2005 to 111.9 billion pieces in 2010, an average increase of 2.1 percent per year. Standard Mail volume is expected to benefit from the consistent economic growth projected by Global Insight in the baseline scenario.

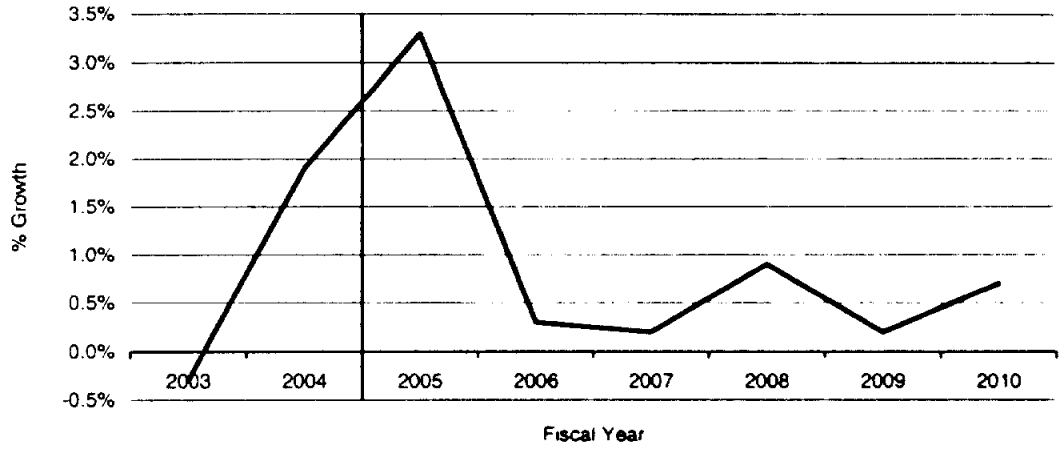
The combined volumes of all other mail categories are projected to remain roughly constant over the next five years. Priority and Express Mail volume, for example, is projected to be the same in 2010 as in 2005. Periodicals Mail volumes, on the other hand, are projected to decline from 9.1 billion pieces in 2005 to 8.7 billion pieces in 2010, consistent with the gradual decline that has been occurring in this mail class over the past decade. The baseline scenario projects that Package Services mail volume will show modest growth over the next five years, while International Mail volumes are projected to decline.

Table 1 shows the baseline scenario volume forecasts for the major classes of mail, and Graph 1 shows SPLY growth for total mail volume.

**Table 1: Baseline Forecast**

| Volumes (in billions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| First-Class | 99.1 | 97.9 | 98.1 | 95.4 | 92.0 | 89.9 | 87.5 | 85.5 |
| Priority & Express | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| Periodicals | 9.3 | 9.1 | 9.1 | 9.1 | 9.0 | 9.0 | 8.8 | 8.7 |
| Standard | 90.5 | 95.6 | 100.7 | 104.4 | 106.3 | 109.0 | 110.6 | 111.9 |
| Package Services | 1.1 | 1.1 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.3 |
| International | 0.8 | 0.8 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 |
| Total | 202.2 | 206.1 | 211.6 | 212.7 | 211.0 | 211.6 | 210.6 | 210.0 |
| **% Change over SPLY** | | | | | | | | |
| First-Class | -3.2 | -1.1 | 0.2 | -2.8 | -3.6 | -2.3 | -2.7 | -2.2 |
| Priority & Express | -13.6 | -1.4 | 3.8 | 0.0 | -3.4 | 1.0 | 1.1 | 1.5 |
| Periodicals | -3.8 | -2.0 | -0.2 | 0.0 | -1.3 | -0.5 | -1.7 | -1.1 |
| Standard | 3.7 | 5.6 | 5.3 | 3.8 | 1.8 | 2.5 | 1.5 | 1.2 |
| Package Services | 5.0 | 0.3 | 3.7 | 2.8 | 0.2 | 1.8 | 1.2 | 1.8 |
| International | -10.9 | 4.8 | 1.9 | -1.1 | -2.3 | 0.0 | -0.4 | -0.2 |
| Total | -0.3 | 1.9 | 2.6 | 0.5 | -0.8 | 0.3 | -0.5 | -0.3 |

**Graph 1. Baseline Forecast**
**Total Mail Growth Over SPLY**




## b. Pessimistic Scenario (Next Most Likely)

The pessimistic scenario forecast, which combines the pessimistic projections of the economy, electronic diversion, and competitor pricing is considered the next most likely scenario to the baseline. The pessimistic scenario forecast is for total mail volume to fall from 211.4 billion pieces in 2005 to 190.5 billion pieces in 2010, a decline of about 2.0 percent per year. First-Class Mail is projected to fall from 98.0 billion pieces to 78.6 billion pieces, an average annual decline of 4.3 percent. Most of this decline is due to the pessimistic projection of greater electronic diversion. Standard Mail is affected primarily by the pessimistic economic projections included in this scenario as well as the assumption that volumes will begin to be negatively affected by the Internet and other new media. The pessimistic projection is for total Standard Mail in 2010 (100.7 billion pieces) to be essentially the same as in 2005 (100.6 billion pieces).

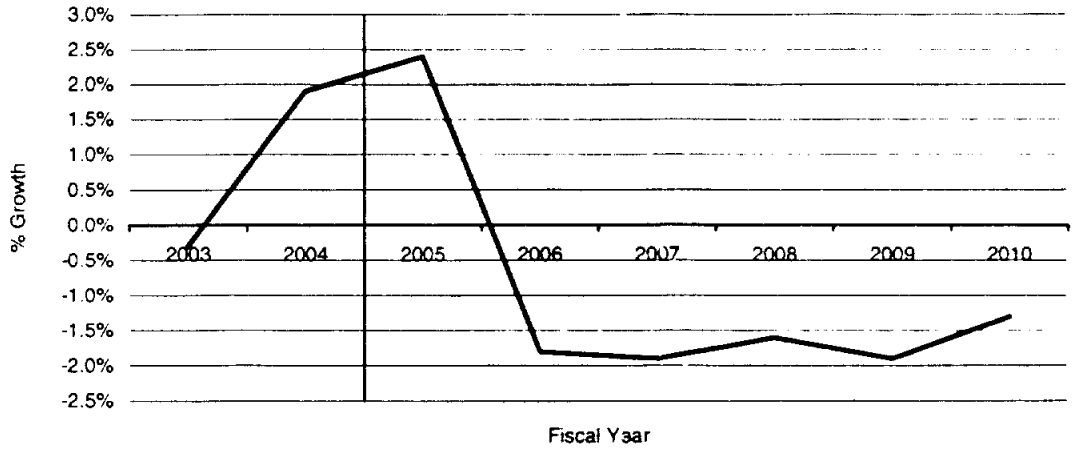
Elsewhere, the pessimistic scenario projects that the combined volume of Priority and Express Mail will decline by 17 percent over the next five years while Periodicals Mail volume is projected to decline 15 percent. The pessimistic scenario also projects that Package Services mail volume will remain flat between 2005 and 2010 and International Mail volume will decline a total of 13 percent over the next five years.

Table 2 and Graph 2 present the pessimistic projections of the volumes of major classes.

**Table 2: Pessimistic Scenario**
**Slower Economy, Greater Electronic Diversion**

| Volumes (in billions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| First-Class | 99.1 | 97.9 | 98.0 | 94.2 | 89.5 | 86.1 | 82.0 | 78.6 |
| Priority & Express | 0.9 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 |
| Periodicals | 9.3 | 9.1 | 9.1 | 8.9 | 8.6 | 8.3 | 8.0 | 7.8 |
| Standard | 90.5 | 95.6 | 100.6 | 102.9 | 102.4 | 102.7 | 101.6 | 100.7 |
| Package Services | 1.1 | 1.1 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| International | 0.8 | 0.8 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.7 |
| Total | 202.2 | 206.1 | 211.4 | 209.6 | 204.0 | 200.6 | 195.0 | 190.5 |
| **% Change over SPLY** | | | | | | | | |
| First-Class | -3.2 | -1.1 | 0.1 | -3.9 | -5.0 | -3.7 | -4.8 | -4.2 |
| Priority & Express | -13.6 | -1.4 | 3.5 | -2.7 | -7.0 | -3.3 | -3.0 | -2.4 |
| Periodicals | -3.8 | -2.0 | -0.4 | -1.8 | -3.7 | -3.2 | -4.0 | -2.9 |
| Standard | 3.7 | 5.6 | 5.3 | 2.3 | -0.4 | 0.3 | -1.0 | -0.9 |
| Package Services | 5.0 | 0.3 | 3.5 | 1.6 | -1.7 | -0.1 | -0.5 | 0.4 |
| International | -10.9 | 4.8 | 1.5 | -3.9 | -4.8 | -2.3 | -1.9 | -1.0 |
| Total | -0.3 | 1.9 | 2.5 | -0.8 | -2.7 | -1.7 | -2.8 | -2.3 |

**Graph 2. Pessimistic Scenario**
**Total Mail Growth Over SPLY**




Compared to the baseline scenario presented earlier, the pessimistic scenario projects that total mail volume 2010 will be 19.5 billion pieces, or about nine percent, less. The pessimistic projection of First-Class Mail volume in 2010 is 6.9 billion pieces below the baseline projection. The pessimistic projection of Standard Mail volume in 2010 is 11.2 billion pieces below the baseline projection for that year.

## c. Optimistic Scenario (Least Likely)

The optimistic scenario assumes that the economy performs better than is projected in the baseline scenario, and further assumes a slowdown in the pace of electronic diversion. Since this diversion assumption appears unlikely, the optimistic scenario forecast is considered the least likely of the three forecasts presented in this paper.

In the optimistic scenario, total mail volume is projected to increase from 212.0 billion pieces in 2005 to 231.3 billion pieces in 2010, an average annual increase of 1.8 percent. First-Class Mail is projected to decrease even in this optimistic scenario, falling from 98.5 billion pieces in 2005 to 95.4 billion pieces in 2010. The volume of Standard Mail is mainly affected by the stronger economy assumed in the optimistic scenario. Standard Mail is projected to rise from 100.8 billion pieces in 2005 to 122.1 billion in 2010, an average annual gain of almost four percent.

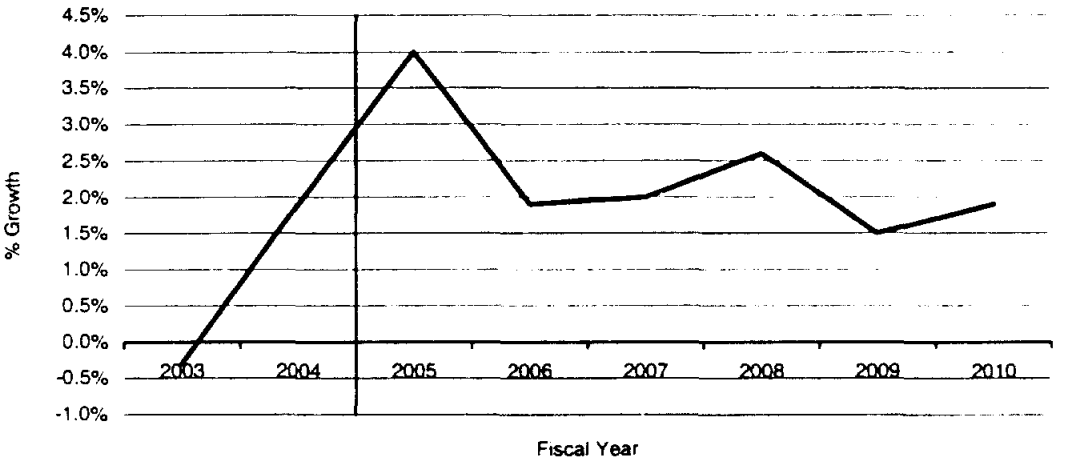
The optimistic scenario projects that the combined volumes of Priority and Express Mail will increase 15 percent over the next five years. This increase is driven by the optimistic scenario assumption that competitors will raise their prices faster than inflation, causing a shift toward the postal products. The volume of Periodicals Mail is projected to increase from 9.1 billion pieces in 2005 to 9.5 billion pieces in 2010 as the stronger economy projected in the optimistic scenario helps the magazine and newspaper industries. The optimistic scenario also projects that Package Services mail volume will grow by an average of 3.4 percent per year over the next five years, due to the stronger economy and a more favorable competitive environment. Finally, the optimistic scenario projects that International Mail volumes will increase.

Table 3 and Graph 3 show the optimistic scenario forecasts.

**Table 3: Optimistic Scenario**
**Stronger Economy, Less Electronic Diversion**

| Volumes (in billions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| First-Class | 99.1 | 97.9 | 98.5 | 98.1 | 96.8 | 96.7 | 96.0 | 95.4 |
| Priority & Express | 0.9 | 0.9 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 | 1.1 |
| Periodicals | 9.3 | 9.1 | 9.1 | 9.2 | 9.3 | 9.5 | 9.5 | 9.5 |
| Standard | 90.5 | 95.6 | 100.8 | 105.9 | 109.6 | 114.4 | 118.5 | 122.1 |
| Package Services | 1.1 | 1.1 | 1.2 | 1.2 | 1.2 | 1.3 | 1.3 | 1.4 |
| International | 0.8 | 0.8 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| Total | 202.2 | 206.1 | 212.0 | 217.0 | 219.5 | 224.5 | 228.0 | 231.3 |
| **% Change over SPLY** | | | | | | | | |
| First-Class | -3.2 | -1.1 | 0.6 | -0.4 | -1.4 | 0.0 | -0.8 | -0.6 |
| Priority & Express | -13.6 | -1.4 | 4.0 | 1.7 | -0.6 | 4.4 | 4.3 | 4.5 |
| Periodicals | -3.8 | -2.0 | -0.1 | 1.2 | 0.6 | 1.9 | 0.2 | 0.4 |
| Standard | 3.7 | 5.6 | 5.4 | 5.1 | 3.6 | 4.3 | 3.6 | 3.1 |
| Package Services | 5.0 | 0.3 | 3.8 | 3.9 | 2.1 | 3.8 | 3.5 | 3.8 |
| International | -10.9 | 4.8 | 2.3 | 1.9 | 0.4 | 2.4 | 1.2 | 1.3 |
| Total | -0.3 | 1.9 | 2.9 | 2.4 | 1.2 | 2.3 | 1.6 | 1.4 |

**Graph 3. Optimistic Scenario**
**Total Mail Growth Over SPLY**




Compared to the baseline forecast presented earlier, the optimistic forecast projects that total mail volume in 2010 will be 21.3 billion pieces, or ten percent, more. For First-Class Mail, the optimistic volume forecast for 2010 is 9.9 billion pieces greater than the baseline forecast, due mainly to a projected slowdown in the pace of electronic diversion, as well as greater benefit from stronger economic growth. The optimistic forecast of Standard Mail volume in 2010 is projected to be 10.2 billion pieces more than the baseline forecast for this year, with this difference being driven primarily by the stronger economy projected in the optimistic scenario and, to a lesser extent, by the optimistic assumption that Standard Mail will continue to be largely unaffected by electronic diversion.

# II. Forecasts of Major Mail Products

This section presents the baseline, pessimistic, and optimistic forecasts of the major mail products. For each product, the assumptions underlying the scenario forecasts are described and the impacts of these assumptions on volume are discussed.

## a. First-Class Single Piece Letters

Table 4 presents the baseline, pessimistic, and optimistic forecasts of First-Class single-piece letters. The baseline forecast assumes that trends that have developed in recent years will continue to effect single-piece volume as they have in the recent past. In particular, this scenario projects that electronic diversion will continue to reduce single-piece letter volume by between 2.0 and 2.5 billion pieces per year, as it has in the recent past. This scenario also uses Global Insight's July baseline economic forecast, which projects slow but steady growth in employment, the primary economic driver of single-piece volume.

In the baseline forecast, First-Class single-piece letter volume is projected to fall from 43.5 billion pieces in 2005 to 34.5 billion pieces in 2010, a total decline of 20 percent or an average of 4.5 percent per year. Note that this is a more rapid volume decline than occurred in 2004, but that was a year in which single-piece letter rates remained constant unlike the forecast period during which rates are assumed to increase.

**Table 4: First-Class Single-Piece Letter Forecasts**

| Volumes (in billions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 46.6 | 45.2 | 43.5 | 41.5 | 39.2 | 37.6 | 35.9 | 34.5 |
| Pessimistic | 46.6 | 45.2 | 43.5 | 41.4 | 38.9 | 37.3 | 34.8 | 32.8 |
| Optimistic | 46.6 | 45.2 | 43.6 | 42.1 | 40.3 | 39.3 | 37.8 | 36.6 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | -5.5 | -3.0 | -3.7 | -4.5 | -5.6 | -4.0 | -4.6 | -4.0 |
| Pessimistic | -5.5 | -3.0 | -3.7 | -4.8 | -6.0 | -4.3 | -6.6 | -6.0 |
| Optimistic | -5.5 | -3.0 | -3.5 | -3.4 | -4.2 | -2.6 | -3.6 | -3.4 |

The pessimistic forecast of single-piece letters is considered the next most likely forecast. It assumes that electronic diversion increases to between 2.5 and 3.0 billion pieces per year, about 0.5 billion more diversion than in the baseline scenario. The pessimistic scenario also assumes that employment declines in 2007, consistent with the onset of a mild recession, which further reduces single-piece letter volume.

In the pessimistic forecast, First-Class single-piece letter volume is projected to fall from 43.5 billion pieces in 2005 to 32.8 billion pieces in 2010, an average decline of 5.5 percent per year. The pessimistic forecast of single-piece letter volume in 2010 is about 1.7 billion pieces below the baseline.

The optimistic forecast of First-Class single-piece letter volume assumes a stronger economy and greater job growth than in the baseline forecast. It assumes somewhat less diversion than in the baseline on the "optimistic" assumption that much of the single-piece letter mail that can be diverted has already been diverted. The optimistic scenario also projects greater job growth with acts to add single-piece volume relative to the baseline

In the optimistic forecast, single-piece letter volume is projected to fall from 43.6 billion pieces in 2005 to 36.6 billion pieces in 2010, an average annual decline of 3.4 percent. Note, then, that even in the optimistic forecast, single-piece letter volume is projected to decline steadily

## b. First-Class Workshared Letters

Table 5 presents the baseline, pessimistic, and optimistic forecasts of First-Class workshared letters. In the most likely, baseline forecast, workshare volume is projected to decline gradually, falling from 49.0 billion pieces in 2005 to 45.5 billion pieces in 2010. Although workshare letter volume increased in 2005, this was a year in which postal rates were held constant and the economy grew by more than four percent. Going forward, postal rates are assumed to rise and Global Insight's baseline forecast is for slower economic growth than what has been seen recently. Moreover, workshare volume declined from 2002 through 2004 indicating that electronic diversion and other market changes have been acting to reduce volume.

**Table 5: First-Class Workshared Letter Forecasts**

| Volumes (in billions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 47.3 | 47.3 | 49.0 | 48.3 | 47.3 | 46.7 | 46.0 | 45.5 |
| Pessimistic | 47.3 | 47.3 | 48.9 | 47.2 | 45.1 | 43.4 | 41.8 | 40.5 |
| Optimistic | 47.3 | 47.3 | 49.3 | 50.3 | 50.8 | 51.7 | 52.4 | 53.0 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | -0.8 | 0.1 | 3.6 | -1.5 | -2.2 | -1.2 | -1.5 | -1.1 |
| Pessimistic | -0.8 | 0.1 | 3.4 | -3.5 | -4.5 | -3.7 | -3.8 | -3.2 |
| Optimistic | -0.8 | 0.1 | 4.2 | 2.1 | 0.9 | 1.9 | 1.2 | 1.1 |

In the pessimistic forecast, the diversion of workshared letters to technological alternatives is projected to increase to almost 2.0 billion pieces per year instead of the 1.0 billion pieces of diversion included in the baseline forecast. The potential increase in diversion of workshare mail is based both on an analysis of recent volume trends and a realization that businesses are increasingly adopting strategies that would reduce their mailings and substitute electronic communications instead. The pace of this adoption may be greater than assumed in the baseline forecast. In addition, the pessimistic scenario projects a decline in retail sales per adult over the next five years and, as a result, the economy will act to reduce workshare volume in the pessimistic scenario.

As a result of these differences with the baseline scenario, the pessimistic scenario projects that workshared letter volume will fall from 48.9 billion pieces in 2005 to 40.5 billion pieces in 2010, a total decline of 17 percent. The pessimistic forecast of workshared letter volume in 2010 is 5.0 billion pieces below the baseline forecast.

The optimistic forecast of workshared letter volume is considered the least likely of the three forecasts. It assumes that the recent increase in workshare volume in 2005 reflects renewed strength in workshare volume, thought not to the degree that was experienced in the late 1990s. Electronic diversion of workshared letter volumes is assumed to have a smaller negative impact on volume than is assumed in the baseline while the economy, as measured by growth in retail sales, adds considerably more to volume.

Therefore, as shown in Table 5, the optimistic scenario projects that workshared letter volume will increase from 49.3 billion pieces in 2005 to 53.0 billion pieces, an average growth rate of 1.5 percent per year. The optimistic forecast of workshared letter volume in 2010 is 7.5 billion pieces above the baseline forecast for that year.

### c. First-Class Cards

The analysis that underlies that baseline, pessimistic, and optimistic forecasts of First-Class cards is similar to what was described earlier for single-piece and workshared letters. In the baseline scenario, recent trends are expected to continue and electronic diversion will reduce First-Class cards volume at the same pace as in the recent past. In the pessimistic scenario, electronic diversion of First-Class cards is projected to increase. The optimistic scenario assumes the same pace of diversion as in the baseline, but includes more optimistic economic projections. However, because First-Class cards volume is not especially sensitive to the economy, the different economic scenarios have less of an impact on cards volume than on the volume of letters.

The baseline, pessimistic and optimistic forecasts of First-Class cards volume are shown in Table 6.

**Table 6: First-Class Cards Forecasts**

| Volumes (in billions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 5.2 | 5.4 | 5.6 | 5.6 | 5.5 | 5.6 | 5.6 | 5.6 |
| Pessimistic | 5.2 | 5.4 | 5.6 | 5.5 | 5.4 | 5.4 | 5.3 | 5.3 |
| Optimistic | 5.2 | 5.4 | 5.6 | 5.7 | 5.7 | 5.7 | 5.8 | 5.9 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | -4.6 | 4.2 | 2.4 | 0.6 | -1.2 | 0.6 | 0.0 | 0.4 |
| Pessimistic | -4.6 | 4.2 | 2.3 | -0.5 | -2.2 | -0.4 | -0.9 | -0.2 |
| Optimistic | -4.6 | 4.2 | 2.6 | 1.7 | -0.2 | 1.6 | 0.9 | 1.0 |

In the baseline forecast, First-Class cards volume is projected to remain near its current level of 5.6 billion pieces with higher postal rates and electronic diversion

offsetting the positive influence on volume that comes from an increase in population. In the pessimistic forecast, electronic diversion of First-Class cards increases and volume falls from 5.6 billion in 2005 to 5.3 billion pieces in 2010. The optimistic forecast projects an increase in cards volume to 5.9 billion pieces in 2010. This increase comes from an increase in the use of First-Class cards by advertisers as well as from a slowdown in the pace of electronic diversion.

### d. Priority Mail

Table 7 presents the baseline, pessimistic and optimistic scenario forecasts of Priority Mail volumes. The scenarios provide a wider range of volumes for Priority Mail than it typical for most mail products. The wider range occurs because Priority Mail volumes are strongly affected by the prices, services, and marketing strategies of competitors UPS and FedEx. Given the constantly changing nature of the highly competitive package delivery market, there is a wide range of possible behaviors by UPS, FedEx, and other smaller delivery companies, creating the wide range of scenario volumes presented in Table 7.

In the baseline forecast, it is assumed that actions by UPS and FedEx neither add nor subtract volume from Priority Mail. This effect is reflected in the forecast by assuming that the competitors raise their rates at the same pace as inflation, leaving their real rates unchanged. In this baseline scenario, Priority Mail volume is projected to grow moderately over the next five years, rising from 882 million pieces in 2005 to 899 million pieces in 2010. The projected volume decline in 2007 is due to the increase in rates assumed in the baseline forecast.

**Table 7: Priority Mail Forecasts**

| Volumes (in millions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 860 | 849 | 882 | 883 | 857 | 870 | 883 | 899 |
| Pessimistic | 860 | 849 | 879 | 857 | 801 | 778 | 756 | 740 |
| Optimistic | 860 | 849 | 883 | 899 | 897 | 941 | 986 | 1,035 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | -13.9 | -1.3 | 3.9 | 0.2 | -2.9 | 1.5 | 1.5 | 1.9 |
| Pessimistic | -13.9 | -1.3 | 3.6 | -2.5 | -6.6 | -2.9 | -2.8 | -2.2 |
| Optimistic | -13.9 | -1.3 | 4.1 | 1.8 | -0.2 | 4.9 | 4.8 | 5.0 |

In the pessimistic scenario, the market in which Priority Mail operates is assumed to become even more competitive. This effect is reflected in the forecast by assuming that future UPS and FedEx rate increases are held to 1.5 percent below the rate of inflation. Declining real rates for competitors causes volume losses for Priority Mail. The pessimistic scenario also assumes a slower economy over the next five years, further reducing Priority Mail volumes. The pessimistic scenario forecast is that Priority Mail volumes will decline from 879 million pieces in 2005 to 740 million pieces in 2010, a total decline of 16 percent over the five-year period.

The optimistic scenario forecast assumes that UPS and FedEx adopt strategies geared more toward increasing their revenues at the expense of volume. This

impact is reflected in the forecast by assuming that UPS and FedEx raise their rates at faster pace than inflation. The optimistic scenario also projects faster economic growth than the baseline. As a result of these optimistic assumptions, the forecast is for Priority Mail volume to increase to 1,035 million pieces in 2010, a 17 percent rise over the next five years.

### e. Express Mail

Baseline, pessimistic, and optimistic scenario forecasts of Express Mail volumes are presented in Table 8. Express Mail, like Priority Mail, is sensitive to the prices and marketing strategies of competing firms. However, the prospects for Express Mail are weaker than for Priority Mail given that Express Mail has generally been losing volume over the past decade and now commands a small share of the overnight delivery market.

**Table 8: Express Mail Forecasts**

| Volumes (in millions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 56 | 54 | 55 | 54 | 48 | 45 | 42 | 40 |
| Pessimistic | 56 | 54 | 55 | 52 | 45 | 41 | 38 | 35 |
| Optimistic | 56 | 54 | 55 | 55 | 52 | 50 | 48 | 45 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | -8.9 | -3.1 | 2.1 | -2.7 | -9.9 | -7.0 | -6.2 | -6.4 |
| Pessimistic | -8.9 | -3.1 | 1.8 | -5.4 | -13.2 | -9.9 | -7.9 | -7.8 |
| Optimistic | -8.9 | -3.1 | 2.3 | 0.2 | -6.6 | -4.1 | -4.4 | -5.0 |

As was the case with Priority Mail, the baseline scenario for Express Mail assumes that competitor actions neither increase nor decrease volume. This impact is reflected in the forecasts by assuming no change in the real rates charged for the overnight services provided by competing companies. In this scenario, Express Mail volume is projected to fall from 55 million pieces in 2005 to 40 million pieces in 2010, a total decline of more than 25 percent. The assumption of an increase in real postal rates over the next five years contributes to this volume decline.

In the pessimistic scenario, the overnight delivery market is assumed to become more competitive, driven mainly by expanded operations by UPS and DHL. This impact is included in the forecast by assuming that FedEx responds to this competitive threat by holding their rate increases to 1.5 percent below the rate of inflation. The decline in the real rates charged by FedEx reduces Express Mail volumes. In addition, the pessimistic scenario projects a slower economy, reflected in essentially flat levels of employment, the economic driver of Express Mail volumes. In the pessimistic scenario, Express Mail volume is projected to fall by more than one-third, 55 million pieces in 2005 to 35 million pieces in 2010.

In the optimistic scenario, employment is assumed to grow more rapidly than is projected in the baseline. More important, the optimistic scenario assumes that the competitive landscape of the overnight market changes in a way that allows FedEx to raise its rates by more than inflation. Higher FedEx rates contribute to

Express Mail volumes. However, given the recent history of this market, in which competition has increased, the optimistic competitor behavior scenario is considered the least likely of three scenarios.

Even in the optimistic scenario, however, Express Mail volumes are projected to decline, though at a slower pace than in the baseline forecast. Volume in 2010 is projected to be 45 million pieces or about five million pieces above the baseline forecast for that year

### f. Periodicals Mail

Baseline, pessimistic, and optimistic scenario forecasts for total Periodicals Mail volumes are presented in Table 9. The scenarios differ in their projections of economic growth, and in the future strength of two negative trends affecting Periodicals Mail volume. For many years, Periodicals Mail volumes have been reduced as a result of a gradual decline in reading and a corresponding decline in periodicals circulation. More recently, Periodicals Mail volumes have declined because the spread of broadband Internet access has facilitated the substitution of online news and entertainment for print media. It has been estimated that these two influences have been reducing Periodicals Mail volumes by about two percent per year.

The baseline scenario projects that the negative influences will continue to subtract approximately two percent per year from Periodicals Mail volumes. Economic factors, such as growth in employment and changes in paper prices, along with increases in population, will only partly offset these negative influences. Therefore, the baseline scenario forecast is that total Periodicals Mail volume will decline from 9.1 billion pieces in 2005 to 8.7 billion pieces in 2010, an average decline of 1.0 percent per year.

**Table 9: Total Periodicals Mail Forecasts**

| Volumes (in billions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 9.3 | 9.1 | 9.1 | 9.1 | 9.0 | 9.0 | 8.8 | 8.7 |
| Pessimistic | 9.3 | 9.1 | 9.1 | 8.9 | 8.6 | 8.3 | 8.0 | 7.8 |
| Optimistic | 9.3 | 9.1 | 9.1 | 9.2 | 9.3 | 9.5 | 9.5 | 9.5 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | -3.8 | -2.0 | -0.2 | 0.0 | -1.3 | -0.5 | -1.7 | -1.1 |
| Pessimistic | -3.8 | -2.0 | -0.4 | -1.8 | -3.7 | -3.2 | -4.0 | -2.9 |
| Optimistic | -3.8 | -2.0 | -0.1 | 1.2 | 0.6 | 1.9 | 0.2 | 0.4 |

The pessimistic scenario differs from the baseline scenario in two important ways. First, it assumes a greater degree of electronic diversion due to the Internet than is assumed in the baseline, with diversion reducing volumes by three percent per year. Second, it projects a less favorable economic scenario than in the baseline, with virtually no net growth in employment from 2005 to 2010, along with rising paper prices. The pessimistic scenario projects that total Periodicals Mail volume will decline to 7.8 billion pieces in 2010, an average decline of 3.1 percent per year.

The optimistic scenario differs from the baseline in that it projects a large increase in employment and decreasing real paper prices, both of which contribute to Periodicals Mail volume. The optimistic scenario also projects a somewhat slower adoption rate for broadband Internet which mildly reduces the pace of electronic diversion. In this optimistic scenario, Periodicals Mail volume remains almost constant, rising from 9.1 billion pieces in 2005 to 9.5 billion pieces in 2010.

### g. Standard Regular Mail

Standard Regular Mail volumes depend on the economy, as well as developments in the advertising industry, including the use of the Internet and other new media as a substitute for direct mail. In the baseline scenario, the economy is projected to show steady growth over the next five years, with real retail sales projected to grow an average of 2.2 percent per year and real investment spending projected to an average of 3.3 percent per year. Moreover, the baseline scenario projects that for the near-term, there will be little reduction in Standard Mail volumes due to electronic diversion. However, electronic diversion is projected to being reducing Standard Mail volumes by one percent per year beginning in 2009 in the baseline case.

As shown in Table 10, the baseline scenario forecast is for Standard Regular Mail volume to increase from 53.5 billion pieces in 2005 to 64.9 billion pieces in 2010. This amounts to an average annual increase of about 4.0 percent over the five-year period. Note that the impact of future electronic diversion is seen with the reduction in volume growth beginning in 2009.

**Table 10: Standard Regular Mail Forecasts**

| Volumes (in billions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 46.6 | 50.8 | 53.5 | 56.3 | 58.9 | 61.7 | 63.4 | 64.9 |
| Pessimistic | 46.6 | 50.8 | 53.5 | 55.4 | 56.8 | 58.5 | 58.9 | 59.2 |
| Optimistic | 46.6 | 50.8 | 53.6 | 57.1 | 60.6 | 64.3 | 67.2 | 69.8 |
| *% Change over SPLY* | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | 7.1 | 8.9 | 5.4 | 5.2 | 4.6 | 4.8 | 2.9 | 2.3 |
| Pessimistic | 7.1 | 8.9 | 5.3 | 3.7 | 2.6 | 2.9 | 0.8 | 0.5 |
| Optimistic | 7.1 | 8.9 | 5.5 | 6.6 | 6.1 | 6.2 | 4.6 | 3.9 |

The pessimistic scenario differs from the baseline forecast in that it projects only a small real increase in retail sales and a decrease in real investment spending consistent with a recession occurring in 2007. The pessimistic scenario also projects that Standard Regular Mail will be subject to electronic diversion beginning in 2009 but assumes that diversion will begin reduce volume by two percent per year at that time.

Therefore, in the pessimistic scenario, Standard Regular Mail volume is projected to grow from 53.5 billion pieces in 2005 to 59.2 billion pieces in 2010, an annual average increase of 2.0 percent per year. The pessimistic scenario projects that

by 2010, Standard Regular Mail volume will be 5.7 billion pieces lower than in the baseline case.

The optimistic scenario projects a stronger economy than in the baseline, with real retail sales and real investment spending growing at annual rates of 4.1 percent and 7.1 percent, respectively. The optimistic scenario projects that for the foreseeable future, electronic diversion will not reduce Standard Regular Mail volumes.

As a result of these optimistic assumptions, Standard Regular Mail volume is projected to increase from will increase from 53.6 billion in 2005 to 69.8 billion in 2010. This represents an average growth of 5.4 percent per year over the next five years. By 2010, the optimistic scenario forecast is 4.9 billion pieces greater than the baseline forecast.

### h. Standard ECR Mail

Standard ECR Mail, like Regular Mail, is affected by the economy. However, econometric analysis shows that ECR Mail is more sensitive to price and to the prices of other forms of advertising. Therefore, the assumption of higher postal rates included in the scenario forecasts will have a larger negative effect on Standard ECR Mail volume. Moreover, ECR Mail is currently subject to some electronic diversion as Internet advertising substitutes from some types of ECR mail. Finally, as advertising mailers have improved their targeting ability, there has been a reduction in the use of Standard ECR Mail in favor of Standard Regular Mail.

In the baseline scenario, these conditions are expected to continue into the future. The economy is projected to grow steadily, newspaper advertising prices are projected to continue to increase as they have been, and Internet advertising is projected to grab a larger and larger share of the advertising dollar. Moreover, the gradual shift of mail from ECR to more targeted Regular Mail is projected to continue as well. Standard ECR Mail volume is projected to decline from 32.0 billion pieces in 2010 to 31.3 billion pieces in 2010 as higher real postal rates reduce the use of ECR Mail.

**Table 11: Standard ECR Mail Forecasts**

| Volumes (in billions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 29.3 | 30.3 | 32.0 | 32.7 | 31.9 | 31.6 | 31.5 | 31.3 |
| Pessimistic | 29.3 | 30.3 | 32.0 | 32.2 | 30.4 | 29.1 | 28.0 | 27.0 |
| Optimistic | 29.3 | 30.3 | 32.1 | 33.3 | 33.3 | 34.0 | 35.0 | 35.6 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | -1.2 | 3.5 | 5.6 | 2.2 | -2.6 | -0.9 | -0.3 | -0.9 |
| Pessimistic | -1.2 | 3.5 | 5.6 | 0.5 | -5.5 | -4.2 | -3.9 | -3.7 |
| Optimistic | -1.2 | 3.5 | 5.7 | 3.7 | -0.1 | 2.2 | 2.9 | 1.7 |

In the pessimistic scenario, slower economic growth is projected. More important, the pessimistic scenario projects a larger increase in the Internet

advertising share while other forms of advertising further reduce ECR volumes. Table 11 shows that in the pessimistic case, Standard ECR Mail volume is projected to fall from 32.0 billion pieces in 2005 to 27.0 billion pieces in 2010, an average decline of 3.4 percent per year over the next five years. Thus, the pessimistic volume projection for 2010 is 4.3 billion pieces below the baseline projection.

The optimistic scenario projects stronger economic growth than in the baseline, as discussed in the Standard Regular Mail section. The optimistic scenario projects a smaller increase in the Internet advertising share than in the baseline and further assumes that no additional sources of diversion projected to emerge over the next five years. Consequently, the optimistic scenario projects that ECR volume will increase from 32.1 billion pieces in 2005 to 35.6 billion in 2010, an average increase of 2.0 percent per year.

### i. Standard Nonprofit Mail

The baseline, pessimistic, and optimistic scenario forecasts for Standard Nonprofit Mail are presented in Table 12. The baseline scenario projects that Nonprofit Mail volume will increase from 15.1 billion pieces in 2005 to 15.8 billion pieces in 2010. The main driver of this volume increase is the economy, reflected by growth in retail sales, the economic driver of Standard Nonprofit Mail volume. At present, electronic diversion has not had a major impact on Standard Nonprofit Mail volumes and that condition is expected to continue through 2008. Beginning in 2009, the baseline scenario projects that the Internet and alternatives to direct mail solicitations will begin to divert one percent of Standard Nonprofit Mail per year. Overall, the baseline scenario projects volume to grow by an average of about 1.0 percent per year over the next five years.

**Table 12: Standard Nonprofit Mail Forecasts**

| Volumes (in billions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 14.5 | 14.4 | 15.1 | 15.4 | 15.5 | 15.7 | 15.6 | 15.8 |
| Pessimistic | 14.5 | 14.4 | 15.1 | 15.3 | 15.2 | 15.1 | 14.7 | 14.6 |
| Optimistic | 14.5 | 14.4 | 15.1 | 15.5 | 15.8 | 16.1 | 16.3 | 16.7 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | 3.7 | -0.6 | 4.6 | 2.1 | 0.8 | 0.9 | -0.5 | 1.1 |
| Pessimistic | 3.7 | -0.6 | 4.6 | 1.2 | -0.6 | -0.5 | -2.6 | -0.9 |
| Optimistic | 3.7 | -0.6 | 4.6 | 2.8 | 1.8 | 1.8 | 1.1 | 2.8 |

The pessimistic scenario assumes a weaker economy than in the baseline, which is the main driver of the difference between the pessimistic and baseline forecasts. In addition, the pessimistic forecast assumes a two percent annual loss to electronic diversion beginning in 2009, as opposed to the one percent annual loss assumed in the baseline scenario. Table 12 shows that in the pessimistic scenario, Standard Nonprofit Mail volume is projected to decline from 15.1 billion pieces in 2005 to 14.6 billion pieces in 2010, an annual loss of about 1.0 percent. The pessimistic volume projection for 2010 is about 1.2 billion pieces below the baseline forecast for that year.

Finally, the optimistic scenario projects a stronger economy than in the baseline case and assumes that Standard Nonprofit Mail volumes remain largely unaffected by electronic diversion. Volume is therefore projected to increase to 16.7 billion pieces in 2007, almost one billion more pieces than is projected for that year in the baseline scenario. The optimistic forecast calls for an average annual increase in Standard Nonprofit Mail volume of 2.0 percent.

### j. Parcel Post

Table 13 presents the baseline, pessimistic and optimistic scenario forecasts of total Parcel Post volume. Total volume is forecast as the sum of non-destination entry and destination entry volume. The evidence shows that the volumes of these two categories of parcel post are driven by different factors, with destination entry being more sensitive to its price and the prices charged by its competitors. Moreover, destination entry volumes have been harmed by the increasing competitive nature of the ground delivery market.

The baseline scenario assumes that both UPS and FedEx raise their rates at the same pace as inflation, thereby keeping their real rates unchanged. This is equivalent to assuming that there are no major changes to the competitive structure of the industry over the next five years. As shown in Table 13, the baseline scenario projects total parcel post volume to decline from 391 million pieces in 2005 to 364 million pieces in 2010, a fall of seven percent over the five-year period. This decline is primarily driven by the assumption of higher postal rates in the future.

**Table 13: Total Parcel Post Forecasts**

| Volumes (in millions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 387 | 376 | 391 | 383 | 368 | 366 | 364 | 364 |
| Pessimistic | 387 | 376 | 391 | 377 | 350 | 337 | 324 | 316 |
| Optimistic | 387 | 376 | 392 | 390 | 386 | 398 | 409 | 420 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | 3.9 | -2.9 | 4.1 | -2.0 | -4.1 | -0.5 | -0.6 | 0.1 |
| Pessimistic | 3.9 | -2.9 | 4.0 | -3.5 | -7.1 | -3.9 | -3.8 | -2.5 |
| Optimistic | 3.9 | -2.9 | 4.3 | -0.5 | -1.0 | 3.1 | 2.8 | 2.8 |

The pessimistic scenario projects that the already competitive ground delivery market becomes even more competitive. This change is reflected in the forecast by assuming that UPS and FedEx hold their future rate increases to 1.5 percent below the rate of inflation. The decline in their real rates causes volume to shift away from Parcel Post, with the effect being greater in the more price sensitive destination entry category. In addition to this direct rate effect, the pessimistic scenario also assumes that UPS and FedEx engage in marketing initiatives that cause additional losses of parcel post volume. Therefore, the pessimistic scenario projects that Parcel Post volume will fall from 391 million pieces in 2005 to 316 million pieces in 2010, a total decline of about 20 percent.

The optimistic scenario differs from the baseline scenario in two key ways. First, it assumes that UPS and FedEx increase their ground delivery rates at a faster pace than overall inflation. Second, it assumes that the parcel post gains volume as a result of non-price considerations.

Table 13 shows that in the optimistic scenario, total Parcel Post volume is projected to increase from 392 million pieces in 2005 to 420 million pieces in 2010, a total rise of 7.1 percent over the five-year period. The optimistic scenario projects about 56 million more pieces of parcel post volume in 2010 than is projected in the baseline case.

### k. Bound Printed Matter

The baseline, optimistic, and pessimistic scenario forecasts of Bound Printed Matter are presented in Table 14. The baseline scenario assumes that Bound Printed Matter volume will continue to be driven by increases in mail order retail sales which have helped raise volume from 545 million pieces in 2003 to a projected 589 million pieces in 2005. Going forward, the forecast is for a further volume increase to 684 million pieces in 2010, representing an average volume gain of 3.0 percent per year.

The pessimistic scenario projects a weaker economy than the baseline. The weaker economic projection includes slower growth in mail order retail sales which acts to reduce volume relative to the baseline. Bound Printed Matter volume is projected to rise from 588 million pieces in 2005 to 638 million pieces in 2010, an average annual increase of 1.6 percent per year.

The optimistic scenario projects a stronger economy and, as a result, a greater increase in mail order retail sales that is projected in the baseline case. Bound Printed Matter volume is projected to increase from 589 million pieces in 2005 to 746 million pieces in 2010 in the optimistic scenario. This represents an average annual increase of 4.8 compared with the baseline forecast of 3.0 percent annual average growth.

**Table 14: Bound Printed Matter Forecasts**

| Volumes (in millions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 545 | 554 | 589 | 621 | 639 | 657 | 666 | 684 |
| Pessimistic | 545 | 554 | 588 | 613 | 620 | 628 | 628 | 638 |
| Optimistic | 545 | 554 | 589 | 628 | 656 | 685 | 711 | 746 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | 7.3 | 1.6 | 6.4 | 5.5 | 2.9 | 2.8 | 1.4 | 2.7 |
| Pessimistic | 7.3 | 1.6 | 6.2 | 4.3 | 1.2 | 1.1 | 0.1 | 1.5 |
| Optimistic | 7.3 | 1.6 | 6.4 | 6.5 | 4.5 | 4.4 | 3.8 | 4.9 |

## l. Media Mail

Table 15 presents the scenario forecasts for Media Mail. In the baseline scenario, volume is projected to increase from 178 million pieces in 2005 to 202 million pieces in 2010, an average rise of 2.6 percent per year. The main driver of this increase is growth in mail order retail sales.

The pessimistic scenario projects slower growth in mail order retail sales than in the baseline which, in turn, leads to slower growth in Media Mail volumes. In this scenario, volume is projected to increase to 197 million pieces in 2010. Finally, the optimistic scenario projects stronger growth in mail order retail sales than in the baseline. This leads to a larger increase in Media Mail volumes which, in the optimistic scenario, are projected to be 206 million pieces in 2010.

**Table 15: Media Mail Forecasts**

| Volumes (in millions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 179 | 186 | 178 | 186 | 187 | 192 | 198 | 202 |
| Pessimistic | 179 | 186 | 178 | 185 | 184 | 188 | 194 | 197 |
| Optimistic | 179 | 186 | 178 | 187 | 188 | 194 | 202 | 206 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | 2.6 | 3.9 | -4.2 | 4.4 | 0.2 | 2.9 | 3.3 | 1.9 |
| Pessimistic | 2.6 | 3.9 | -4.3 | 3.7 | -0.3 | 2.4 | 2.9 | 1.5 |
| Optimistic | 2.6 | 3.9 | -4.2 | 4.8 | 0.7 | 3.3 | 3.7 | 2.2 |

## m. International Mail

The baseline, pessimistic, and optimistic scenario forecasts of International Mail volumes are presented in Table 16. In general, two factors drive International Mail volumes. The first is the positive influence of rising international trade and related activities. The second is the negative impact from electronic diversion due to the use of e-mail as a substitute for International Mail. In the baseline case, these two effects are seen as being roughly offsetting, but higher International Mail rates cause volume to decline from 860 million pieces in 2005 to 830 million pieces in 2010.

**Table 16: International Mail Forecasts**

| Volumes (in millions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | | 844 | 860 | 851 | 831 | 832 | 829 | 830 |
| Pessimistic | | 844 | 856 | 823 | 783 | 765 | 751 | 744 |
| Optimistic | | 844 | 863 | 879 | 882 | 903 | 914 | 926 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | | 4.8 | 1.9 | -1.1 | -2.3 | 0.0 | -0.4 | 0.2 |
| Pessimistic | | 4.8 | 1.5 | -3.9 | -4.8 | -2.3 | -1.9 | -1.0 |
| Optimistic | | 4.8 | 2.3 | 1.9 | 0.4 | 2.4 | 1.2 | 1.3 |

In the pessimistic scenario, electronic diversion effects are presumed to dominate. As a consequence, International Mail volumes are projected to decline from 856 million pieces in 2005 to 744 million pieces in 2010, a total decline of 13 percent over the five-year period.

In the optimistic scenario, growth in international activity (both business and personal) is projected to dominate the negative effects of electronic diversion. International Mail volumes are projected to rise to 926 million pieces in 2010, a total increase of 7.3 percent over the five-year period.

## n. Registered Mail

Table 17 presents the scenario forecasts for Registered Mail. In the baseline scenario, Registered Mail volume is driven mainly by the continuation of a long-term negative trend. Volume is projected to fall almost by half over the next five years, declining from 7.6 million pieces in 2005 to 3.9 million pieces in 2010.

The pessimistic scenario differs from the baseline scenario in two ways. First, an additional negative trend of 1.0 percent per year is included in the forecast. Second, since Registered Mail volumes are tied to First-Class letter volumes, the pessimistic scenario forecast for Registered Mail is based on the pessimistic scenario forecast of First-Class letters. In this pessimistic scenario, volume declines to 3.6 million pieces in 2010.

In the optimistic scenario, a positive trend of 1.0 percent per year is added to the forecast. In addition, the optimistic scenario forecast of Registered Mail is based on the optimistic scenario forecast of First-Class letters. As this optimistic forecast was considered the least likely of the three volume scenarios for First-Class letters, it is also the least likely of the three volume scenarios for Registered Mail. Volume is projected at 4.3 million pieces in 2010.

**Table 17: Registered Mail Forecasts**

| Volume (in Millions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 8.1 | 7.4 | 7.6 | 6.4 | 5.5 | 5.0 | 4.4 | 3.9 |
| Pessimistic | 8.1 | 7.4 | 7.6 | 6.3 | 5.3 | 4.7 | 4.1 | 3.6 |
| Optimistic | 8.1 | 7.4 | 7.6 | 6.6 | 5.8 | 5.3 | 4.8 | 4.3 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | -12.6 | -9.0 | 2.3 | -15.7 | -13.9 | -10.4 | -11.8 | -10.8 |
| Pessimistic | -12.6 | -9.0 | 2.1 | -17.1 | -15.4 | -12.0 | -13.6 | -12.3 |
| Optimistic | -12.6 | -9.0 | 2.7 | -13.6 | -11.9 | -8.3 | -10.0 | -9.5 |

## o. Insured Mail

The baseline scenario forecast of Insured Mail assumes that the long-term negative volume trend continues. The pessimistic scenario forecast includes an annual negative trend of one percent. Moreover, since the volume of Insured Mail is driven by the Postal Service's package market volumes, the pessimistic scenario forecast for Insured Mail is based on the pessimistic scenario forecasts of the postal package products. The optimistic scenario differs from the baseline in that it includes a positive 1.0 percent annual trend and it is based on the optimistic scenario forecast of the postal package forecasts.

Table 18 presents the scenario forecasts for Insured Mail. In the baseline case, Insured Mail volume falls by about half over the next five years, from 49 million pieces in 2005 to 25 million pieces in 2010. The pessimistic and optimistic scenario forecasts are similar to the baseline, with a forecasted 2010 volume of 23 million pieces in the pessimistic scenario and 30 million pieces in the optimistic scenario. Thus, in all three scenarios, the historical downward trend in Insured Mail volumes continues to drive the forecast.

**Table 18: Insured Mail Forecasts**

| Volume (in Millions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 58 | 53 | 49 | 44 | 38 | 33 | 28 | 25 |
| Pessimistic | 58 | 53 | 49 | 43 | 37 | 32 | 26 | 23 |
| Optimistic | 58 | 53 | 49 | 45 | 40 | 35 | 31 | 30 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | -1.7 | -10.0 | -7.5 | -10.7 | -12.8 | -12.8 | -14.9 | -13.4 |
| Pessimistic | -1.7 | -10.0 | -7.6 | -12.0 | -14.5 | -14.5 | -16.4 | -14.5 |
| Optimistic | -1.7 | -10.0 | -7.3 | -9.3 | -11.2 | -11.0 | -13.2 | -12.2 |

## p. Certified Mail

Table 19 presents the scenario forecasts for Certified Mail. The baseline scenario is the most likely case and assumes that Certified Mail volumes will continue to grow much as they have in the recent past. The pessimistic forecast includes a negative trend of 1.0 percent per year. Moreover, since the volume of Certified Mail is tied to the volume of First-Class letters, the pessimistic scenario forecast is based on the pessimistic scenario forecast for letters. In the optimistic scenario, the forecast is based on the optimistic scenario forecast for letters, making it the least likely of the three scenarios. In addition, the optimistic scenario includes an additional 1.0 percent positive annual trend.

**Table 19: Certified Mail Forecasts**

| Volume (in Millions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 271 | 274 | 257 | 262 | 259 | 260 | 263 | 266 |
| Pessimistic | 271 | 274 | 257 | 256 | 247 | 243 | 238 | 236 |
| Optimistic | 271 | 274 | 259 | 272 | 276 | 287 | 298 | 307 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | -4.3 | 0.8 | -6.0 | 1.7 | -1.2 | 0.7 | 1.0 | 1.3 |
| Pessimistic | -4.3 | 0.8 | -6.2 | -0.5 | -3.4 | -1.6 | -1.8 | -1.1 |
| Optimistic | -4.3 | 0.8 | -5.5 | 5.0 | 1.8 | 3.8 | 3.7 | 3.3 |

In the baseline scenario, Certified Mail volumes are projected to increase modestly, rising from 257 million pieces in 2005 to 266 million pieces in 2010. In the pessimistic scenario, volume falls to 236 million pieces in 2010, while in the optimistic scenario, Certified Mail volume reaches 307 million pieces in 2010.

## q. COD Mail

Table 20 presents the scenario forecast for COD Mail. In all three scenarios, COD volumes are projected to decline as they have been for many years. The pessimistic scenario assumes this decline will occur more rapidly than in the baseline scenario, which is accomplished by including a 1.0 percent annual negative trend into the pessimistic scenario forecast. The optimistic scenario forecast includes a 1.0 percent positive annual trend. Overall, the impact of the different scenario trends is far less than the negative trend included in the baseline forecast. In all three scenarios, COD volume is projected to decline from its projected volume of 1.5 million pieces in 2005.

**Table 20: COD Mail Forecasts**

| Volume (in Millions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 1.9 | 1.9 | 1.5 | 1.5 | 1.4 | 1.3 | 1.2 | 1.1 |
| Pessimistic | 1.9 | 1.9 | 1.5 | 1.5 | 1.4 | 1.3 | 1.2 | 1.1 |
| Optimistic | 1.9 | 1.9 | 1.5 | 1.5 | 1.4 | 1.4 | 1.3 | 1.2 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | -18.6 | 2.6 | -21.0 | 1.6 | -7.7 | -7.0 | -6.8 | -6.3 |
| Pessimistic | -18.6 | 2.6 | -21.2 | 0.5 | -8.6 | -7.9 | -7.7 | -6.9 |
| Optimistic | -18.6 | 2.6 | -20.9 | 2.7 | -6.8 | -6.0 | -6.0 | -5.8 |

## r. Return Receipts

Return Receipts volume is driven by the volume of Certified Mail as these two products are often used together. As such, Return Receipts volume is also driven by First-Class letter volume, as this is a driver of Certified Mail. In the baseline scenario, Return Receipts volume is projected to remain flat.

The pessimistic scenario forecast for Return Receipts is based on the pessimistic scenario forecast for Certified Mail. In addition, a negative 1.0 percent annual trend is included in the forecast. In this scenario, Return Receipts volume declines from 236 million pieces in 2005 to 208 million pieces in 2010, 13.5 percent less than the baseline scenario forecast for that year.

**Table 21: Return Receipts Forecasts**

| Volume (in Millions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 231 | 239 | 237 | 238 | 235 | 236 | 238 | 241 |
| Pessimistic | 231 | 239 | 236 | 231 | 221 | 216 | 211 | 208 |
| Optimistic | 231 | 239 | 239 | 248 | 253 | 263 | 274 | 283 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | -7.3 | 3.2 | -0.8 | 0.4 | -1.6 | 0.7 | 0.8 | 1.1 |
| Pessimistic | -7.3 | 3.2 | -1.1 | -2.4 | -4.3 | -2.2 | -2.4 | -1.4 |
| Optimistic | -7.3 | 3.2 | -0.2 | 4.2 | 1.8 | 4.1 | 3.8 | 3.3 |

The optimistic scenario forecast includes a positive annual trend of 1.0 percent. In addition, the optimistic scenario forecast for Return Receipts is based on the optimistic scenario forecast of Certified Mail which, in turn, is based on the

optimistic scenario forecast of First-Class letters. As a result, the optimistic scenario is considered the least likely of the three scenarios. In this scenario, Return Receipts volume increases from 239 million pieces in 2005 to 283 million pieces in 2010, 17.5 percent more than in the baseline scenario forecast.

## s. Money Orders

Table 22 presents the baseline, pessimistic and optimistic scenario forecasts for Money Orders. Money Order volumes have recently come under pressure due to the entry of Wal-Mart and other retailers into the money order business. The baseline scenario assumes that this increase in competition will continue to reduce money order volumes. Volume is therefore projected to decline from 181 million pieces in 2005 to 149 million pieces in 2010, a total drop of about 18 percent over the five-year period.

**Table 22: Money Orders Mail Forecasts**

| Volume (in Millions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 198 | 188 | 181 | 179 | 170 | 163 | 156 | 149 |
| Pessimistic | 198 | 188 | 181 | 175 | 163 | 153 | 144 | 137 |
| Optimistic | 198 | 188 | 182 | 183 | 178 | 174 | 168 | 162 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | -8.5 | -5.8 | -3.4 | -1.2 | -5.2 | -4.2 | -4.5 | -4.0 |
| Pessimistic | -8.5 | -5.8 | -3.6 | -3.2 | -7.3 | -6.0 | -5.6 | -4.8 |
| Optimistic | -8.5 | -5.8 | -3.3 | 0.8 | -3.1 | -2.4 | -3.3 | -3.2 |

The pessimistic scenario includes the pessimistic projection of essentially constant employment over the next five years. In addition, the forecast includes a negative 1.0 percent annual trend on the view that the money order market could become even more competitive. Money Order volume declines from 181 million pieces in 2005 to 137 million pieces in 2010, a 24 percent decrease.

The optimistic scenario includes the optimistic projection that employment will increase by more than two million jobs per year over the next five years. The optimistic forecast also assumes that the money order market becomes less competitive in the future, an impact that is reflected in the forecast by a 1.0 percent positive annual trend. However, given that this market is becoming more and more competitive, this optimistic scenario should be viewed as the least likely case. Nevertheless, Money Order volume is still projected to decline in the optimistic scenario, falling from 182 million pieces in 2005 to 162 million pieces in 2010. Over the five-year period, this represents an eleven percent decline.

## t. Delivery and Signature Confirmation

Delivery and Signature Confirmation volumes have been growing rapidly, which is often the case for a new product. The baseline scenario assumes that volume will continue to grow but at a more reasonable pace than has been experienced in the recent past. Volume is projected to rise from 692 million pieces in 2005 to 905 million pieces in 2010, an average increase of 5.5 percent per year.

The pessimistic scenario projects that the slowdown in the growth of Delivery and Signature Confirmation volume will occur more rapidly than is projected in the baseline. A negative 1.0 percent annual trend is included in the forecast. As a result, volume is projected to rise more slowly than in the baseline case, increasing from 691 million pieces in 2005 to 863 million pieces in 2010, an average annual rise of 4.6 percent.

The optimistic scenario projects that volume growth will remain stronger than projected in baseline case, and it includes a one percent positive annual trend. In this scenario, Delivery and Signature Confirmation volumes increase from 693 million pieces in 2005 to 949 million pieces in 2010, a 37 percent increase.

Table 23 presents the baseline, pessimistic, and optimistic scenario forecast for Delivery and Signature Confirmation volumes.

**Table 23: Delivery & Signature Confirmation Mail Forecasts**

| Volume (in Millions) | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|
| Baseline | 515 | 599 | 692 | 738 | 773 | 822 | 863 | 905 |
| Pessimistic | 515 | 599 | 691 | 729 | 756 | 796 | 828 | 863 |
| Optimistic | 515 | 599 | 693 | 747 | 790 | 849 | 899 | 949 |
| **% Change over SPLY** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** |
| Baseline | 81.9 | 17.2 | 15.5 | 6.7 | 4.7 | 6.3 | 5.0 | 4.9 |
| Pessimistic | 81.9 | 17.2 | 15.3 | 5.5 | 3.7 | 5.2 | 4.1 | 4.3 |
| Optimistic | 81.9 | 17.2 | 15.6 | 7.8 | 5.8 | 7.4 | 5.9 | 5.5 |

# III. Approach to Creating Pessimistic and Optimistic Scenarios

Pessimistic and optimistic scenarios have been created to give a plausible range of mail volumes around the baseline forecast. These scenarios also show the sensitivity of mail volumes to assumptions about the behavior of key volume drivers such as the economy, electronic diversion, and competitor behavior.

The pessimistic forecast differs from the baseline forecast in that it projects a weaker economy as well as larger losses from electronic diversion. The pessimistic forecast also projects greater losses to competitors due to more aggressive pricing and marketing behavior on their part. The optimistic forecast projects a stronger economy, less electronic diversion, and a more favorable competitive environment than forecast in the baseline. The pessimistic scenarios are considered more likely than the optimistic scenarios and therefore, as a whole, the pessimistic scenario is considered the second-most likely scenario (behind the baseline) while the optimistic scenario is considered the least likely scenario.

The pessimistic and optimistic scenario projections for economic performance, electronic diversion, and competitor pricing will be discussed in turn.

## *A. Economic Scenarios*

The baseline economic scenario is taken from Global Insight's July economic forecast. This forecast projects steady economic growth over the next five years. However, no one can know for sure whether an economic recession or substantial slowdown will occur sometime over the next five years. This prospect is taken into consideration in the pessimistic economic scenario which introduces a mild economic recession into the economy in 2007 and generally weaker economic performance over the five years from 2005 through 2010.

Another possibility is that the economy could experience stronger growth than projected in the baseline scenario. This prospect is taken into consideration in the optimistic economic scenario which assumes more rapid economic growth than is projected in Global Insight's baseline forecast.

Both the pessimistic and optimistic economic scenarios are created by modifying the baseline economic forecasts by applying historical variations in the performance of key economic variables. Three variables that have been found to be drivers of mail volumes are employment, retail sales, and business investment spending. Table 24 presents average annual changes in these three variables from 2005 to 2010 for each of the three economic scenarios. Retail sales and investment spending are presented in real terms, i.e., adjusted for inflation. Note that there are other economic variables that influence mail volumes but Table 24 focuses on the most important economic drivers.

**Table 24: Average Annual Percentage Change in Economic Variables**
**2005 to 2010**
**Pessimistic, Baseline, and Optimistic Economic Scenarios**

| Economic Variable | Pessimistic | Baseline | Optimistic |
|---|---|---|---|
| Private Sector Employment | 0.3% | 1.1% | 2.0% |
| Real Retail Sales | 0.5% | 2.3% | 4.1% |
| Real Business Investment Spending | -0.5% | 3.3% | 7.2% |

In the baseline scenario, employment is projected to increase at an annual rate of 1.1 percent which corresponds to a net gain of about 6.4 million private sector jobs over the next five years. Real retail sales are projected to increase an average of 2.3 percent per year in the baseline scenario. Real business investment spending, a key driver of Standard Mail, is projected to increase by an average of 3.3 percent per year in the baseline scenario.

In the pessimistic scenario, employment is projected to decline in 2007 and then recover modestly. From 2005 through 2010, virtually no net increase in private sector employment growth is projected This scenario is consistent with a mild recession. A deeper recession, were it to occur, would have even greater adverse affects on mail volumes than projected in the pessimistic economic scenario.

The pessimistic scenario also projects that real retail sales will increase at just a 0.5 percent annual rate, meaning that retail sales growth will be just greater than inflation. Investment spending is projected to decline in real terms over the next five years in the pessimistic economic scenario.

The optimistic scenario projects that employment will increase by an average of 2.0 percent per year over the next five years, equivalent to about 2.25 million additional private sectors jobs added each year. Tnis is approximately the same pace as occurred from 1995 through 2000. The optimistic scenario also projects that real retail sales will grow by an average of 4.1 percent per year over the forecast horizon. Real investment spending is projected to grow even more rapidly, rising by an average of 7.2 percent per year. The greater variation of investment spending in the three scenarios is consistent with the greater historical volatility of this variable.

One other note is that the variation of economic performance is likely greater in the near-term than in the long-term. The economy's record of economic growth over any three year period during the last four decades is much less stable than its record over longer periods. As such, the range given to the economic variables over the next three years is greater than the range given to them over the longer-term.

## *B. Electronic Diversion Scenarios*

Electronic diversion refers to the loss of mail volumes due to the use of technological alternatives such as e-mail, online bill payment, electronic funds transfers, electronic bill presentment, and advertising over the Internet. It encompasses both the direct replacement of mail (e.g., a bill that is paid online instead of through the mail) as well the effect of changing household, business, and government use of the mail due to the many technological changes that have occurred over the past decade or so. Thus, the term "electronic diversion" is used to reflect these adverse impacts on the mail even though not all mail diversion is directly attributable to any specific electronic alternative.

Electronic diversion effects are included in the Postal Service volume models in two ways. The first is to relate the loss of mail volume to specific measures of technological use such as total online experience, the number of broadband subscribers, or the Internet advertising share. A second way in which diversion is included in the volume models is through trend terms that measure the decline in mail volume related to the general increase in the use of technological alternatives to the mail and other recent changes to the markets in which postal products operate. Historical data are used to estimate the past impact of diversion of mail volumes, and these historical estimates form the basis of the projected levels of diversion included in the baseline, pessimistic, and optimistic scenarios.

Table 25 presents the approximate amount of electronic diversion included in the baseline, pessimistic, and optimistic scenarios.

**Table 25: Average Annual Volume Loss to Electronic Diversion**
**2005 to 2010**
***Pessimistic, Baseline, and Optimistic Economic Scenarios***

| Mail Class | Pessimistic | | Baseline | | Optimistic | |
|---|---|---|---|---|---|---|
| | pieces | percent | Pieces | percent | pieces | percent |
| First-Class Mail | 4.5 billion | 5.0% | 3.6 billion | 4.0% | 2.4 billion | 2.5% |
| Standard Mail | 2.1 billion* | 2.0%* | 1.1 billion* | 1.0%* | 0 | 0 |
| Periodicals Mail | 270 million | 3.0% | 180 million | 2.0% | 135 million | 1.5% |

* Starting in 2009

The baseline forecast projects that electronic diversion will continue to reduce mail volumes at about the same rate that it has in the recent past. In First-Class Mail, this diversion has been estimated at about 3.6 billion pieces per year. Going forward, the baseline electronic diversion scenario projects a continuation of this volume loss, which is equivalent to about 4.0 percent volume loss per year.

Standard Mail has not been strongly affected by electronic diversion, though there is evidence that ECR mail volume has been reduced somewhat by Internet advertising. Going forward, this situation is projected to continue through 2008.

However, beginning in 2009, the baseline model assumes that electronic diversion begins to reduce Standard Mail volumes by one percent per year. The 2009 starting point is admittedly a bit arbitrary. It may occur sooner, it may occur later, it may not occur at all. However, given the increased interest by marketers in alternatives to traditional advertising, it seems reasonable to expect that at some point in the future, Standard Mail volumes will be negatively affected.

Periodicals Mail has also been affected by electronic diversion in recent years, as well as by a long-term decline in the reading of newspapers. The baseline diversion scenario is that these volume losses will continue at their recent rate of about two percent per year, taking into account both the long-term volume decline and the more recent declines due to electronic diversion.

The pessimistic diversion scenario projects a greater rate of diversion than in the baseline. In First-Class, diversion is projected to average about 4.5 billion pieces per year in this scenario, compared to 3.6 billion pieces per year in the baseline case. Increased diversion may result from a number of factors. First, the penetration of household Internet usage may rise more rapidly than projected in the baseline. The Internet could become nearly as commonplace as telephones. Second, and more important, households already using the Internet may make greater use of electronic alternatives for bill payment. Even now, only about one in six households pay any bills online. Another area of potentially larger losses of volume is the business-to-household market. As households pay more bills online, they are likely to begin receiving more bills online. It is reasonable to assume a more rapid adoption of electronic bill presentment than is projected in the baseline diversion scenario. Finally, business-to-business communications could shift more rapidly to the Internet.

The pessimistic scenario also projects that electronic diversion will begin to appreciably reduce Standard Mail volumes beginning in 2009, but this scenario assumes that diversion reduces volume by two percent per year, equivalent to about 2.1 billion pieces of Standard Mail annually. The pessimistic scenario also projects greater diversion of Periodicals Mail volumes than in the baseline scenario, with the Internet and other alternatives to magazines and newspapers diverting about three percent of Periodicals Mail volume per year.

The optimistic diversion scenario, in which diversion slows from its current pace, is considered unlikely. As a result, the optimistic scenario – including the optimistic assumptions regarding the economy and competitor pricing – is considered less likely than the pessimistic forecast scenario. Still, it is possible that certain events will act to slow the loss of mail to electronic alternatives. First, household Internet penetration growth is slowing, and it is possible that the Internet use will peak out at about seventy percent of households, similar to the current level of cable-TV penetration. Second, there has been a noted increase in the amount of computer viruses and e-mail scams that may cause people to avoid using the Internet for financial activities. Finally, it is possible that the shift

of business-to-business mail to the Internet could be slowed as a result of proprietary standards for data transmission complicating coordination between enterprises.

In the optimistic diversion scenario, the annual losses of First-Class Mail are projected to be about 2.4 billion pieces per year, about one-third less diversion than is included in the baseline scenario. The optimistic scenario also projects that Standard Mail volume will be largely unaffected by electronic diversion over the next five years. Finally, this scenario also projects that diversion will only remove about 1.5 percent of Periodicals volume on an annual basis.

## *C. Competitor Price Scenarios*

The volumes of Priority Mail, Express Mail, and Parcel Post are affected by the prices of private delivery companies, principally UPS and FedEx. Table 26 shows the competitor price scenarios used in the baseline, optimistic, and pessimistic forecasts. The baseline scenario projects that UPS and FedEx both raise their prices at the same rate as inflation, leaving their real prices unchanged. Put differently, the baseline scenario projects that the pricing and marketing strategies of UPS and FedEx neither reduce nor increase the volume of postal products.

In the pessimistic competitor price scenario, UPS and FedEx are projected to limit their price increases to 1.5 percent below the rate of inflation. This decline in the real price of postal competitors will act to reduce the volume of postal products relative to the baseline scenario. The pessimistic competitor price assumption can also be taken to mean that in the pessimistic scenario, the competitive nature of the market will change in ways detrimental to postal volume growth. For example, expanded activity by DHL would be expected to make the overnight and package delivery markets more competitive than they are now.

In the optimistic competitor price scenario, both UPS and FedEx are projected to raise their rates by more than inflation. This projected increase in the real prices charged by competitors will lead to greater volumes of competing postal products that would result in the baseline scenario. Again, this scenario can also be interpreted as meaning that overnight and package delivery markets change in ways that are beneficial to the Postal Service.

**Table 26: Average Real Annual Percentage Change in Competitor Price**
**2005 to 2010**
**Pessimistic, Baseline, and Optimistic Scenarios**

| Competitor Price | Pessimistic | Baseline | Optimistic |
|---|---|---|---|
| UPS | -1.5% | 0% | +1.5% |
| FedEx | -1.5% | 0% | +1.5% |

The pessimistic and optimistic competitor price scenarios are based on the past behavior of UPS and FedEx. Historically, UPS has raised its rates relative to inflation while FedEx price increases have tended to be less than inflation. In the pessimistic scenario, competition from FedEx (and other delivery firms like DHL), forces UPS to reduce their price increases relative to inflation. In the optimistic scenario, FedEx adopts a pricing strategy similar to what UPS has pursued in the past, focusing on increasing prices and revenues at the expense of volumes.

# IV. Comparison with Other Forecasts

The 2005Q3 baseline total volume forecast is within the range presented in the 2005Q1 forecast and the 2005 Integrated Financial Plan (2005 IFP) forecast. Focusing on 2010, Table 27 shows that for total mail and for First-Class Mail and Standard Mail, the 2005Q3 baseline forecast is below the 2005Q1 and 2005 IFP baseline forecasts, but well within the range created by the baseline and pessimistic scenarios. The 2005Q3 baseline forecast of All Other Mail volume is greater than the earlier baseline forecasts, but within the range created by the earlier baseline and optimistic forecasts.

Table 27 also shows that the 2005Q3 pessimistic and optimistic forecasts of total mail, First-Class Mail and Standard Mail are close to the pessimistic and optimistic forecasts from 2005Q1 and the 2005 IFP. The 2005Q3 pessimistic and optimistic forecasts of All Other Mail volume are close to those from the 2005Q1 forecast, but noticeably greater than those from the 2005 IFP.

**Table 27**
**Comparison of Forecasts of GFY 2010 Volumes**

| Mail Class | | 2005Q3 Forecast | 2005Q1 Forecast | 2004Q3 IFP 2005 |
|---|---|---|---|---|
| Total Mail | Pessimistic | 190.5 | 193.7 | 189.8 |
| | **Baseline** | **210.0** | **217.6** | **211.4** |
| | Optimistic | 231.3 | 236.3 | 231.6 |
| First-Class | Pessimistic | 78.6 | 78.4 | 80.0 |
| | **Baseline** | **85.5** | **89.5** | **87.0** |
| | Optimistic | 95.4 | 97.9 | 96.6 |
| Standard | Pessimistic | 100.7 | 104.3 | 100.2 |
| | **Baseline** | **111.9** | **115.9** | **113.2** |
| | Optimistic | 122.1 | 124.9 | 122.4 |
| All Other | Pessimistic | 11.2 | 10.9 | 9.6 |
| | **Baseline** | **12.6** | **12.2** | **11.2** |
| | Optimistic | 13.8 | 13.5 | 12.6 |

# Appendix: Long-Term Forecasts to 2014

The appendix presents baseline, pessimistic, and optimistic forecasts for fiscal years through 2014. As was the case for the forecasts through 2010, the baseline forecast is considered the most likely, the pessimistic forecast the second most likely, and the optimistic forecast the least likely.

**Table A1. Baseline Volume Forecast**

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First-Class Mail | 102,379 | 99,059 | 97,505 | 95,361 | 92,865 | 90,945 | 89,547 | 87,908 | 85,886 | 84,835 | 82,984 | 81,952 | 80,487 |
| Priority Mail | 998 | 860 | 837 | 811 | 757 | 717 | 663 | 628 | 574 | 557 | 512 | 502 | 460 |
| Express Mail | 61 | 56 | 54 | 54 | 52 | 50 | 48 | 46 | 43 | 42 | 41 | 40 | 38 |
| Periodical Mail | 9,690 | 9,320 | 9,038 | 8,825 | 8,684 | 8,403 | 8,311 | 8,098 | 7,936 | 7,773 | 7,656 | 7,517 | 7,418 |
| Standard Mail | 87,231 | 90,492 | 95,062 | 98,838 | 101,493 | 104,516 | 107,835 | 111,009 | 113,388 | 115,271 | 116,559 | 117,982 | 119,213 |
| Package Services | 1,075 | 1,129 | 1,127 | 1,139 | 1,150 | 1,153 | 1,162 | 1,170 | 1,187 | 1,206 | 1,225 | 1,233 | 1,248 |
| International Mail | 904 | 805 | 855 | 883 | 866 | 865 | 845 | 849 | 818 | 827 | 804 | 817 | 799 |
| Total | 202,822 | 202,185 | 205,051 | 206,476 | 206,448 | 207,241 | 209,026 | 210,337 | 210,477 | 211,172 | 210,459 | 210,747 | 210,382 |
| **% Change Over SPLY** | | | | | | | | | | | | | |
| First-Class Mail | -1.2% | -3.2% | -1.6% | -2.2% | -2.6% | -2.1% | -1.5% | -1.8% | -2.3% | -1.2% | -2.2% | -1.2% | -1.8% |
| Priority Mail | -10.7% | -13.9% | -2.7% | -3.1% | -6.7% | -5.3% | -7.5% | -5.3% | -8.6% | -3.0% | -8.0% | -2.0% | -8.3% |
| Express Mail | -11.7% | -8.9% | -3.3% | 0.0% | -3.3% | -5.0% | -4.2% | -3.7% | -5.0% | -2.5% | -4.2% | -2.2% | -4.0% |
| Periodical Mail | -3.8% | -3.8% | -3.0% | -2.4% | -1.6% | -3.2% | -1.1% | -2.6% | -2.0% | -2.1% | -1.5% | -1.8% | -1.3% |
| Standard Mail | -3.0% | 3.7% | 5.1% | 4.0% | 2.7% | 3.0% | 3.2% | 2.9% | 2.1% | 1.7% | 1.1% | 1.2% | 1.0% |
| Package Services | -1.6% | 5.0% | -0.1% | 1.1% | 1.0% | 0.3% | 0.7% | 0.7% | 1.5% | 1.6% | 1.6% | 0.6% | 1.3% |
| International Mail | -16.5% | -10.9% | 6.1% | 3.3% | -1.9% | -0.1% | -2.4% | 0.5% | -3.7% | 1.0% | -2.7% | 1.6% | -2.2% |
| Total | -2.2% | -0.3% | 1.4% | 0.7% | 0.0% | 0.4% | 0.9% | 0.6% | 0.1% | 0.3% | -0.3% | 0.1% | -0.2% |

**Table A2. Pessimistic Volume Scenario**

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First-Class Mail | 102,379 | 99,059 | 97,399 | 94,101 | 89,984 | 86,562 | 84,150 | 81,675 | 78,897 | 77,055 | 74,527 | 72,773 | 70,669 |
| Priority Mail | 998 | 860 | 825 | 746 | 671 | 614 | 556 | 516 | 462 | 439 | 395 | 379 | 341 |
| Express Mail | 61 | 56 | 53 | 51 | 48 | 45 | 43 | 41 | 38 | 37 | 35 | 34 | 33 |
| Periodical mail | 9,690 | 9,320 | 9,024 | 8,682 | 8,334 | 7,824 | 7,543 | 7,207 | 6,945 | 6,685 | 6,478 | 6,255 | 6,073 |
| Standard Mail | 87,231 | 90,492 | 95,004 | 97,597 | 98,179 | 99,244 | 101,175 | 101,065 | 100,232 | 99,808 | 98,925 | 98,151 | 97,239 |
| Package Services | 1,075 | 1,129 | 1,123 | 1,106 | 1,086 | 1,061 | 1,043 | 1,025 | 1,017 | 1,010 | 1,004 | 987 | 979 |
| International Mail | 904 | 805 | 850 | 841 | 790 | 756 | 711 | 689 | 640 | 623 | 584 | 572 | 539 |
| Total | 202,822 | 202,185 | 204,852 | 203,690 | 199,673 | 196,699 | 195,837 | 192,847 | 188,875 | 186,318 | 182,628 | 179,856 | 176,590 |
| **% Change Over SPLY** | | | | | | | | | | | | | |
| First-Class Mail | -1.2% | -3.2% | -1.7% | -3.4% | -4.4% | -3.8% | -2.8% | -2.9% | -3.4% | -2.3% | -3.3% | -2.4% | -2.9% |
| Priority Mail | -10.7% | -13.9% | -4.0% | -9.6% | -10.1% | -8.4% | -9.5% | -7.2% | -10.5% | -5.0% | -9.9% | -4.0% | -10.2% |
| Express Mail | -11.7% | -8.9% | -4.2% | -4.5% | -5.5% | -6.7% | -5.0% | -4.5% | -5.8% | -3.3% | -5.0% | -3.0% | -4.8% |
| Periodical Mail | -3.8% | -3.8% | -3.2% | -3.8% | -4.0% | -6.1% | -3.6% | -4.5% | -3.6% | -3.7% | -3.1% | -3.4% | -2.9% |
| Standard Mail | -3.0% | 3.7% | 5.0% | 2.7% | 0.6% | 1.1% | 1.9% | -0.1% | -0.8% | -0.4% | -0.9% | -0.8% | -0.9% |
| Package Services | -1.6% | 5.0% | -0.5% | -1.6% | -1.8% | -2.3% | -1.7% | -1.7% | -0.8% | -0.7% | -0.6% | -1.7% | -0.9% |
| International Mail | -16.5% | -10.9% | 5.6% | -1.1% | -6.1% | -4.3% | -5.9% | -3.1% | -7.2% | -2.6% | -6.2% | -2.1% | -5.7% |
| Total | -2.2% | -0.3% | 1.3% | -0.6% | -2.0% | -1.5% | -0.4% | -1.5% | -2.1% | -1.4% | -2.0% | -1.5% | -1.8% |

**Table A3. Optimistic Volume Scenario**

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First-Class Mail | 102,379 | 99,059 | 97,611 | 96,634 | 95,826 | 95,532 | 95,265 | 94,586 | 93,458 | 93,359 | 92,352 | 92,236 | 91,612 |
| Priority Mail | 998 | 860 | 839 | 836 | 810 | 793 | 749 | 724 | 676 | 669 | 628 | 629 | 589 |
| Express Mail | 61 | 56 | 54 | 55 | 55 | 54 | 52 | 51 | 49 | 48 | 47 | 46 | 45 |
| Periodical mail | 9,690 | 9,320 | 9,053 | 8,969 | 9,051 | 9,037 | 9,186 | 9,138 | 9,116 | 9,096 | 9,119 | 9,120 | 9,163 |
| Standard Mail | 87,231 | 90,492 | 95,121 | 100,100 | 104,933 | 110,090 | 114,779 | 119,011 | 122,535 | 125,563 | 128,050 | 130,721 | 133,364 |
| Package Services | 1,075 | 1,129 | 1,128 | 1,151 | 1,177 | 1,195 | 1,218 | 1,240 | 1,272 | 1,306 | 1,342 | 1,365 | 1,398 |
| International Mail | 904 | 805 | 858 | 915 | 929 | 957 | 960 | 991 | 981 | 1,018 | 1,017 | 1,061 | 1,066 |
| Total | 202,822 | 202,185 | 205,236 | 209,226 | 213,361 | 218,250 | 222,824 | 226,371 | 228,730 | 231,720 | 233,234 | 235,882 | 237,954 |
| **% Change Over SPLY** | | | | | | | | | | | | | |
| First-Class Mail | -1.2% | -3.2% | -1.5% | -1.0% | -0.8% | -0.3% | -0.3% | -0.7% | -1.2% | -0.1% | -1.1% | -0.1% | -0.7% |
| Priority Mail | -10.7% | -13.9% | -2.4% | -0.3% | -3.1% | -2.2% | -5.6% | -3.3% | -6.7% | -1.0% | -6.1% | 0.1% | -6.4% |
| Express Mail | -11.7% | -8.9% | -3.1% | 2.5% | -0.7% | -2.8% | -3.0% | -2.5% | -3.8% | -1.3% | -3.1% | -1.0% | -2.9% |
| Periodical Mail | -3.8% | -3.8% | -2.9% | -0.9% | 0.9% | -0.2% | 1.6% | -0.5% | -0.2% | -0.2% | 0.3% | 0.0% | 0.5% |
| Standard Mail | -3.0% | 3.7% | 5.1% | 5.2% | 4.8% | 4.9% | 4.3% | 3.7% | 3.0% | 2.5% | 2.0% | 2.1% | 2.0% |
| Package Services | -1.6% | 5.0% | 0.0% | 2.0% | 2.3% | 1.6% | 1.9% | 1.8% | 2.6% | 2.7% | 2.7% | 1.8% | 2.4% |
| International Mail | -16.5% | -10.9% | 6.5% | 6.6% | 1.5% | 3.1% | 0.3% | 3.2% | -1.1% | 3.8% | -0.1% | 4.4% | 0.5% |
| Total | -2.2% | -0.3% | 1.5% | 1.9% | 2.0% | 2.3% | 2.1% | 1.6% | 1.0% | 1.3% | 0.7% | 1.1% | 0.9% |

BY MR. HORWOOD:

Q Mr. Bernstein, is it appropriate for economic purposes to consider a payments market that is a competing market for goods and service for presenting bills and making payments in the United States?

A Yes.

Q On page 50 of your testimony and following you've discussed the household payment market. Is that right?

A Give me a second here. That's correct.

Q On lines 20 and 21, page 50, you state that the increases of the use of electronic alternatives to paying bills by mail found in the diary study are corroborated by a variety of sources. Do you see that?

A Yes, I do.

Q In discovery the Postal Service made available to GCA copies of the sources you referenced. That's at our Interrogatory 8-3. Are you familiar with that?

A Yes.

Q Included in those materials is a study produced by Federal Reserve Bank employees entitled Trends In The Use of Payment Instruments In The United

States. Do you recall that?

A Yes. I've read that.

Q Okay. Do you have a copy with you?

A No.

MR. HORWOOD: Your Honor, I have a copy here. I'm not sure that it's necessary to make an exhibit, but I would like to just hand it to the witness and refer him to a page there. Would that be permissible?

CHAIRMAN OMAS: Yes.

BY MR. HORWOOD:

Q If you look at page 196 under the subheading summaries of findings the article states, "confirming the results of earlier studies recent survey data show that the number of checks paid in the United States has been declining, although the number of electronic payments has been increasing led by growth in debit card payments. The number of electronic payments exceeded the number of check payments in 2003." Do you see that?

A Yes, I do.

Q Do you believe that to be a correct statement?

A I assume that it is a correct statement coming from the Federal Reserve. Yes.

Q Do you have any reason to doubt that the trend described there is still true?

A My understanding is that check payments are continuing to decline, electronic payments are continuing to rise. Yes.

Q In the way that you view the electronic payments market did the number of electronic payments exceed the number of check payments in 2003?

A The way that I view it. For the purpose of the issue of mail the way I view it is payments that would be, or could be, or are sent by mail, so that would probably exclude a large number of debit card payments and credit card payments as well of course cash payments which are not even mentioned there because they're not payments that would be, or would have been, or could be, or are made by mail.

So within the context of my testimony I define the market more along the lines as payments for which mail is a more reasonable alternative. So that's excluding all the times you go to the store and you use your debit card to make a payment. The Federal Reserve I think is including that, so their measure of the market is broader, all payments, and in their market measure electronic payments are the majority.

In the market as I have defined it in my testimony payments by mail are still the majority.

Q Do you have Mr. Thress' testimony handy?

A I do not have it handy. No.

MR. HORWOOD: Counsel, I wonder if it could be provided to him.

BY MR. HORWOOD:

Q Mr. Bernstein, I'd like to refer you to Table 6 of that testimony which is on page 47.

A Yes. I see it.

Q The total number of payments in 2003 was 81.2 million. Is that right?

A Billion. Yes.

Q Billion. Okay.

A 81.2 billion.

Q The total number of check payments is 36.7 billion. Is that right?

A Yes.

Q Would you agree that not all check payments are mailed?

A Right.

Q So as of 2003 some 45 percent of the total U.S. payment market are payments by check and over 55 percent are payments by electronic means. Is that right?

A I'm assuming that your 45 percent is 36.7 divided by 81.2 and if that's 45 percent then that's correct.

Q There's every reason to believe that trend is continuing. Is that right?

A Yes.

Q In the future mailed checks are going to be even less of a percentage of the total U.S. payments market. Is that a fair assumption?

A U.S. mailed checks that is probably correct, although this data actually referred to all checks.

Q Now, getting back to a subject I was discussing with Mr. Thress, given that mailed checks represent less than 45 percent of payments that are made would you agree as an economist that mail does not have market power in the payments market?

A Well, the payments market is not just one market. It depends how you define the market. If you're talking about all payments then there are many, many different ways to make payments. I don't think you've actually defined what the term market power means, and I don't think actually that the term logically applies in this discussion to be honest.

There are a lot of different ways to make payments. Market power refers to some kind of control

over a segment of the marketplace and I would say that, yes, the mail or checks have some control over a certain part of the marketplace. Does it have less than it used to? Probably so. Does it still have some? Yes.

Q Does it have the ability to charge what's known as monopoly rents?

A I don't know. I don't know.

Q Let me ask you what monopoly rents are as you understand it?

A Well, to be able to charge a price really above the price that would exist in a more competitive market. Now, you're not even sure how we define the price of a check exactly for a check payment. They're not perfect substitutes and to the extent that they're not perfect substitutes means that there's some market power. It may not be great, but it exists.

Q Is there less market power in the Postal Service over first-class mail today then there was 10 years ago?

A See you haven't really defined market power, so I don't think I can answer that without really defining the term market power. Is it represent a smaller share of a certain market? Yes. Is that exactly the same as market power? I wouldn't say so.

Q Does it mean that there's more of a likelihood that through price increases volumes might be lost to substitutes?

A Apparently not.

Q Why not?

A Because the price elasticity of first-class mail is not different than it has been. Nor does there appear to be observable evidence that it's different in terms of just looking at the data.

Q How about with respect to the payment submarket of first-class mail? Is that still not price elastic?

A I'm not sure because that hasn't been addressed specifically in an econometric sense. My feeling is that the loss of payments from mail has very little to do with the price of mail. Although there may be some affect I do not believe that is a dominant affect. I think the dominant affect is outside of the price of mail.

Q What are the basis for your feeling?

A Observing the fact that there doesn't seem to be much of a relation between postal rate changes and the bill payment behavior as found say in the household diary study. I don't think you would look at it and say that's when postal rates went up. I

think what you see is a steady decline in the payment share by mail. It doesn't appear to be linked in any close way to the price of first-class mail.

I don't think in terms of discussion -- I suspect that you will read through this document. I don't know if there will be a statement in that document, there might be, this is the Federal Reserve document, that mentions the price of first-class mail. Possibly they do. I don't know.

I've read a lot of documents along these lines talking about online banking, talking about NATCHA or ACH transactions, various things like that and I honestly cannot say that other than something that may have been prepared by the Postal Service have I seen a discussion of the price of the first-class letter as being a factor.

Q If you could refer, please, to Table 25 on page 51 of your testimony.

A Yes.

Q Here, Table 25 is labeled Share of Household Bills Paid by Different Methods, and it's based on the Household Diaries study, is that right?

A That's correct.

Q And that study is only household bill payments, right?

A That's right.

Q So it doesn't address business-to-business payments?

A No, it doesn't.

Q Or government-to-government payments?

A That's right.

Q Or government-to-business or business-to-government?

A Right. Or government to household.

Q Okay.

A Or business to household.

Q Okay. A question that I had asked Mr. Thress I'll see if you know. Does the Household Diaries study track debit card payments?

A No, it does not. Unless people on their own blend debit card payments with credit card payments. It addresses how people pay regular bills, bills as opposed to payments. For instance, the credit card refers to not somebody using a credit card but somebody using a credit card to make a regular bill payment like, you know, paying my, I don't know, newspaper subscription by credit card.

And to the extent that a person might use their debit card and consider it identical to the credit card, it might. But I don't think that that's

obviously what the vast majority of debit card transactions are.

Q Table 25 shows that in 2003, 73.5 percent of households paid bills by mail, is that right?

A It actually shows that 73.5 percent of household bills were paid by mail.

Q Okay.

A It's a share of bills, not a share of households.

Q Thank you.

A Yes.

Q How do you reconcile that 73.5 percent with the Federal Reserve data in Mr. Thress' Table 6 that in 2003 mail payments constituted less than what we've calculated, 45 percent of the total U.S. payments market?

A Two different sets of payments. This looked at household payments of recurring, regular bills by mail. The Federal Reserve data looked at all payments of any kind by all methods and therefore just looking at checks, for example, the Federal Reserve data, I believe, said there were 36.5 billion checks. Those are all checks written, whether you paid your landlord with a check or you wrote a check at the grocery store, or you gave birthday money with a check or

anything that was written by a check would be included in the Federal Reserve total.

The Household Diary Study is looking at a payment and it's not really by check, it's by mail. Now we presume that payments by mail are by check. But, for example, there are payments in person. Those may very well be payments by check as well. You might go to someone and personally give them a check. That's the distinction, is it's different payments and it's focused on the method of delivery as opposed to specifically the method of payment, I guess.

So it's different. it's 73.5 percent of a different number than the Federal Reserve study.

Q If you can turn please to page 60 of your testimony. Beginning on line seven, you say that combined with the earlier observation about the uniqueness of on-line billing households, these results indicate that future growth in on-line bill payment as opposed to other electronic payment methods could be the key driver of future share of bills paid by mail.

Do you see that testimony?

A Yes.

Q Do you anywhere in your testimony address the root causes of why on-line bill payment is

growing?

A I don't know that I do. And I'm trying to think if I addressed that in earlier testimony. I may have. Are you asking me why?

Q Yes. First I asked if, now I'll ask why.

A Well, I think it is, there was another study at the Federal Reserve that said the precursor to on-line bill payment was the direct deposit, that people who had direct deposit, typically paychecks but also social security checks, but more so I think with paychecks. Once you realize that you can get paid electronically it made people perhaps more accepting of the notion of paying others electronically so they in that study, which I don't have the author or the time or the title, but the idea I have, is that that was one of the steps.

Obviously having a computer if you're going to pay on-line as opposed to another method of electronic payment is going to be important. Having broadband or faster connections is going to make the process a lot easier. If you have to dial up every time you want to pay a bill it's just not going to be very fruitful to do so. So that would also be a driver.

There's a demographic age factor. Younger

people who become more familiar with computers are going to do it. My parents will never pay a bill on-line. I just can't imagine. So there's that sort of cultural acceptance of technology as well. Those are some of the key factors.

Q I'd like to refer you to your answer to GCA Interrogatory 6.

A Give me a moment.

(Pause).

A I see it.

Q You say you do not believe there is a single key driver from the diversion of first class mail because first class consists of many different types of mail, each of which may be affected by different drivers of diversion, and for example on-line bill payment is likely to be the key driver of diversion of household bill payments, broadband access may be the key driver of diversion of bills and statements mailed to households.

When you say that broadband access may be the key driver of diversion of bills and statements mailed to households, what do you mean?

A I think that as more and more people get broadband, it represents a different kind of internet access than dial-up access. It's always on, it's

faster, it says something about the user, that they would actually pay more in many cases to get this. So to me it's representative of someone who's more connected literally and figuratively with the internet and more reachable that way, more accepting of it, more comfortable with it. I think that that would then be something, that sort of person with that kind of technology would be more inclined to receive bills and statements and other information via the internet than someone who does not have broadband.

Q Would it be fair to say that broadband access doesn't cause a diversion of billing statements but there is a correlation or association between increased broadband penetration and increased diversion?

A I think it's both. There is a cause because it just makes it easier to receive that kind of information. There is the fact that, as I said, if every time I wanted to look at a bill I had to dial up on my computer and go to that trouble I probably wouldn't want to do it like that, so there is a cause, but I think there's also a correlation, as I said. People who have broadband are more apt to be accepting of on-line statements, for example.

Q Is broadband penetration increasing?

A Yes, it is.

Q Has it reached anything like the levels of internet penetration?

A No, because there are non-broadband internet people.

Q The usage of broadband is increasing also as well as the penetration.

A I'm not sure I understand exactly your distinction. How much time people spend on-line using broadband?

Q That's right. How much they use it rather than whether they have it available.

A I believe so, yes.

Q Is the interest of business in reducing postage and printing costs a causal driver to the increased diversion of billing statement payments to households?

A I would imagine that that is a factor.

Q Is the business interest in expediting payments another causal driver?

A It may be, yes.

Q Did the study material you considered address the root causes associated with increased diversion of billing statement mailed to households?

A I'm not sure exactly what you mean by the

root causes. In general, yes, in that we're talking about now bills and statements sent by businesses to households, I assume. Is that what you're referring to?

Q Yes.

A Yes. For instance, billing, we're aware of the fact that it can be cheaper for a business, once sort of the infrastructure costs are considered, cheaper for a business to present things electronically than by the mail.

Q If you could turn please to Interrogatory 1 of GCA.

A Yes.

Q Part C, you indicated that one way to estimate future levels of diversion of first class mail would be to decompose first class mail into individual mail segments and make a segment by segment projection of diversion. Do you see that?

A Yes.

Q Would you agree that payments mail would be a logical mail segment to look at with respect to electronic diversion?

A Yes.

Q Why is that?

A Because it's a definable type of mail.

Q Would you expect that the on-demand elasticity for payments mailed to be higher than the on-demand elasticity for first class mail as a whole?

A I don't know. It's a very divers mail stream, so I don't know.

MR. HORWOOD: Mr. Chairman, I had sent as a possible cross-examination exhibit to counsel for the Postal Service excerpts from the Strategic Transformation Plan 2006-2010 of the United States Postal Service. It was dated September 2005.

I'd like to have that marked as an exhibit.

CHAIRMAN OMAS: Mr. Horwood, what are you naming this exhibit?

We need you to get over on the mike so the Reporter can get it, please.

MR. HORWOOD: GCA Cross-Examination Exhibit 1, I guess. What is the convention for naming cross-examination exhibits?

CHAIRMAN OMAS: Your first exhibit would be Exhibit 1. Thank you.

(The document referred to was marked for identification as GCA Gross Examination Exhibit 1.)

BY MR. HORWOOD:

Q Mr. Bernstein, you referred to this study as, you know what your response to an interrogatory does, right?

A Yes, I do.

Q Were you involved in providing input to this study?

A I was.

Q What was the extent of that involvement?

MR. KOETTING: Could I have a clarification? When you say this study.

MR. HORWOOD: Cross-Examination Exhibit 1, or the entire document. The entire Strategic Transformation Plan.

MR. KOETTING: We might want some clarification of exactly what it was that Witness Bernstein had input into because he certainly didn't have input into the entire transformation plan.

THE WITNESS: No, I did not.

MR. HORWOOD: All right.

BY MR. HORWOOD:

Q Let me ask, Mr. Bernstein, what was the input you had?

A The input that I had involved the mail volume scenarios which are found, I believe, on page eight.

Q You had sent your response yesterday to GCA Interrogatory number T8-8 which has been marked as a cross-examination exhibit, is that right?

A That's correct.

Q Is the material that is discussed in answer to that interrogatory some of which of the interrogatory that was provided to the Postal Service that's reflected in Exhibit GCA Cross-Examination 1?

A I'm not quite sure I understand, but the scenarios, for example, the volume shown in the scenarios in the graphs on page eight were discussed, the creation of those scenarios, the thinking behind it, the numbers, were discussed in the other document that was provided along with the response to your Interrogatory 8.

Q Were these prepared at different times?

A I don't honestly know when the transformation plan document was prepared. I did not write it. The date on it says September of 2005, so I assume around that time.

The writeup of the scenarios was some point before that, probably before that although it's conceivable that the actual writeup came as a similar process, separate were done. I don't know. I think it was before that but I don't know the schedule.

This Strategic Transformation plan is not something that I wrote.

Q If you would refer to the Executive Summary that's attached to GCA Cross-Examination Exhibit 1, shows the volume forecast scenarios were dated August 2005. Do you see that?

A I don't see the date August 2005.

Q Look at the very --

A Oh, I see. August 2005. I do see it, yes.

Q Do you know whether the graphs that are shown on page eight of GCA Cross-Examination Exhibit 1 reflect the information as you provided it to the Postal Service?

A I assume so, although I was not the sole provider of that information. But I assume it is the same picture or the same data. But I don't know. I haven't checked. There are no actual numbers there to verify. They look the same.

Q It appears from eyeballing it that you project a decline of first class mail volume from about 98 billion pieces in 2005 to about 90 billion pieces in 2010. Is that correct?

A That is the baseline projection. That's not actually my projection. I did not make that projection.

Q All right.

The baseline projection is the projection that you believe is the most reasonable projection, is that right?

A Yes.

Q Is it correct to say that the rate of decline in first class mail is relatively constant?

A Are you speaking historically or --

Q Over the period 2005-2010.

A Depending on what you mean by relatively constant, I suppose so, yes. It's not a perfectly straight line so it's not exactly constant.

Q For forecasting purposes you wouldn't simply do a straight line trend out to 2015 of this baseline projection, is that right?

A No, I don't think that would be the best way to do it, no.

Q In Cross-Examination Exhibit GCA-1, you do show a projected baseline forecast through the year 2014, is that right?

A I'm sorry. The response to GCA-1 --

Q I'm sorry. GCA Cross-Examination Exhibit 1. It's your response --

A This document, this rather large document?

Q Yes.

A I believe it does have forecasts out to, yes, it may have forecasts in the appendix somewhere out further into the future. Yes?

Q Yes.

A I believe it does.

Q Did you prepare that forecast?

A I did not prepare the baseline forecast. I worked on the creation of the scenarios about the baseline forecast, but I was not the sole preparer.

Q Who else? And by who else I mean what other types of persons were involved in the preparation of the document?

A People, humans.

(Laughter).

A I really am trying to recall. It was within the work at RCF. Myself, Mr. Thress, others there. Dr. Tolley. I presume that there was at least some back and forth conversations at some point with the Postal Service but I don't recall exactly who did what, how and when, if that's your question.

Q Do you believe the projections here are reasonable projections of what they purport to be?

A Yes.

Q If you could look at page 26 of GCA Cross-Examination Exhibit 1, --

MR. KOETTING: Just to clear things up a bit, if I may. I believe you're referring to page 2 of the attachment to the response of Witness Bernstein to GCA Question 8 as opposed to the materials from the Strategic Transformation Plan itself, which are the cross-examination exhibits.

MR. HORWOOD: Thank you very much for the correction, Mr. Koetting.

BY MR. HORWOOD:

Q Looking at the second paragraph, the second sentence, it says that the pessimistic forecast also projects greater losses to competitors due to more aggressive pricing and market behavior on their part. Do you see that?

A Yes.

Q Does that indicate there is a level of price elasticity with respect to electronic diversion?

A Actually that section there refers to the market for priority mail, express mail, parcel post where the baseline forecast assumes a certain future level of rates for the competitors and the scenarios assume different projected rates. So it is not actually, that statement does not actually refer to the issue of electronic diversion.

Q When you look at the second page of your

response, a-f, on the second paragraph you say that "competition between internet provides," I guess that should be providers, "could intensify, access rates could fall, and adoption levels would in turn be greater than projected in baseline."

A Yes.

Q Does that suggest that price is going to be a factor in --

A Price of what? Of the internet?

Q Price of electronic substitutes, yeah.

A It could be a factor, yes. If broadband became free, for example, that would probably lead to more broadband and have effects.

Q In your testimony and some of your responses to data requests you separate broadband from internet, is that right?

A I'm a little confused by that.

Q You distinguish between broadband use and internet use.

A Yes. Broadband is a subset of internet use.

Q Is it a meaningful subset?

A I think so. I think the difference between broadband and dial-up is a meaningful difference.

Q Do you believe that if all we had was dial-up there would be less susceptibility of electronic

diversion than you'd have with broadband?

A I think so, yes.

Q You expect broadband use to increase in the future?

A Yes.

Q Do you expect it to increase significantly in the future?

A What do you mean by significantly? It's grown a lot. It's growing. Most of the growth in the internet is happening in broadband, people shifting away from dial-up. I'm not sure how to say significantly.

Q Is broadband becoming available more widely than it has in the past?

A It's a continuation of what's been happening which is shown in various places but also in my testimony that the number of broadband subscribers is growing and growing and will continue to grow.

Obviously at some point, perhaps far into the future, it will stop growing.

Q Is there competition for providing broadband service?

A Yes.

Q Is that increasing?

A It's probably a market by market thing

because of the local aspects of it, but it is continuing to increase.

Q What would you include within broadband?

A What kind of --

Q DSL.

A DSL and cable, then there's, I imagine Wi-Fi would be considered broadband and these things called T-1 which I'm not very familiar with. It's faster internet than you get with dial-up.

Q Are you familiar with broadband over power lines?

A I'm familiar that that's being, I don't know how much of that is actually done but I know that it's being talked about being done. Utility companies want to get in on it, I suppose.

Q Would you expect that a person who shifted from dial-up to broadband to use the internet more intensively than he or she had before?

A I would expect that.

MR. HORWOOD: Thank you. I have no further questions.

I guess at this point I'd like to move into evidence GCA Cross-Examination Exhibit 1.

CHAIRMAN OMAS: Without objection.

MR. KOETTING: Mr. Chairman, the Postal

Service would object. There was some discussion of pages seven and eight on the document, however there was no discussion whatsoever nor is there any connection with Mr. Bernstein's testimony of pages 14, 15 and 16 of the cross-examination exhibit and therefore the Postal Service would object to those pages being entered into evidence.

CHAIRMAN OMAS: Mr. Horwood?

MR. HORWOOD: I would be willing to exclude those pages.

CHAIRMAN OMAS: All right, we will exclude those pages from the record. Thank you.

(The document referred to, having been previously marked for identification as GCA Cross-Examination Exhibit 1, was received in evidence.)

CHAIRMAN OMAS: Is there any other person who wishes to cross-examine Witness Bernstein?

(No audible response.)

CHAIRMAN OMAS: There being none, Mr. Koetting, would you like some time with your witness?

MR. KOETTING: Three minutes, Mr. Chairman.

CHAIRMAN OMAS: Yes, sir.

(Whereupon, a brief recess was taken.)

CHAIRMAN OMAS: Mr. Koetting?

MR. KOETTING: We have no redirect, Mr. Chairman.

CHAIRMAN OMAS: Thank you.

Mr. Bernstein, that completes your testimony here today. We appreciate your appearance and your contribution to our record and you are now excused.

THE WITNESS: Thank you.

CHAIRMAN OMAS: Thank you.

This concludes today's hearings. We will reconvene tomorrow morning at 9:30 a.m. when we will receive testimony from Postal Service Witnesses Loesch and Tang.

Thank you, and have a good afternoon.

(Whereupon, at 1:10 p.m. the hearing was adjourned to reconvene at 9:30 a.m. on Thursday, August 10, 2006.)

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# REPORTER'S CERTIFICATE

DOCKET NO.: R2006-1

CASE TITLE: Postal Rate and Fee Changes

HEARING DATE: 8/9/06

LOCATION: Washington DC

I hereby certify that the proceedings and evidence are contained fully and accurately on the tapes and notes reported by me at the hearing in the above case before the Postal Rate Commission

Date: 8/9/06

Benedict J Hofstra

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